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UNDER NO BETAKEN FROM

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PATHOLOGY.

THE FATE OF BACTERIA INTRODUCED INTO THE UPPER AIR PASSAGES.

BLOOMFIELD (*Johns Hopkins Hosp. Bul.*, January, 1920) describes his experiments on the fate of bacteria introduced into the upper air passages: B. coli and Staphylococcus albus, in this instance using these two, and presents his conclusions as follows:

1. B. coli and Staph. albus swabbed on the tongue or nasal septum usually disappeared within 24 hours.
2. B. coli and Staph. albus introduced into tonsil crypts could be recovered after somewhat longer intervals.
3. In no case was a permanent carrier state set up.
4. Inert particles disappeared at about the same rate of speed as the bacteria.
5. The organisms probably disappear because they are mechanically removed more rapidly than they multiply.
6. The disposal of B. coli and Staph. albus illustrates a mechanism radically different from that effective in removing sarcina tutea. [J. B. H.]

HEMOLYTIC ACTIVITY OF SOLUTIONS OF ARSPHENAMIN AND NEO-ARSPHENAMIN.

KOLMER, J. A. AND GAYLE, E. M. (*Jour. A. M. A.*, March 6, 1920) state that:

1. All solutions of arsphenamin are hemolytic, owing to the direct hemolytic activity of arsphenamin itself.
2. Solutions of arsphenamin in isotonic saline solution are from three to ten times less hemolytic than solutions in water.
3. The hemolytic activity of solutions of arsphenamin in water and isotonic saline is unavoidably increased by the addition of sodium hydroxid for purposes of neutralization: the addition of an excess of alkali increases hemolytic activity.
4. Concentrated solutions of arsphenamin in water and isotonic saline are more hemolytic than dilute solutions.
5. Neo-arsphenamin is not hemolytic.
6. Dilute solutions of neo-arsphenamin in water, as 0.9 gm. in 90 c.c. or more of water, are hemolytic, owing to hypotonicity of the solution. Concentrated solutions, as 0.9 gm. in 30 c.c. or less of water are not hemolytic, owing to the presence of sufficient inorganic salts from the drug to render the solution approximately isotonic.
7. To avoid hemolysis in the administration of dilute solutions of neo-arsphenamin, sterile sodium chlorid solution of freshly distilled water should be used; when the concentrated solutions are administered (each 0.1 gm. dissolved in 3 c.c. or less), sterile distilled water may be employed.
8. The degree of hemolysis produced by the administration of arsphenamin may be lessened (*a*) by using, instead of water, sterile saline solutions of such strength as to render the solutions isotonic; (*b*) by avoiding the administration of concentrated solutions; (*c*) by carefully neutralizing and "clearing" the solution with sodium hydroxid, counting the drops or otherwise measuring the amount necessary, and adding not more than a fifth of this amount in excess, and (*d*) by giving the injections slowly so as to permit gradual mixing and dilution of the solution with the blood. [E. H. R.]

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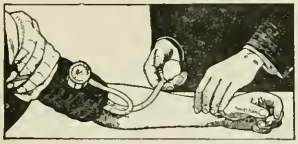

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(Continued from page iv.)

DIFFERENCES IN PATHOLOGY OF PANDEMIC AND RECURRENT FORMS OF SO-CALLED INFLUENZA.

SYMMES, D. *et al.* (*Jour. A. M. A.*, March 6, 1920) conclude and summarize their article as follows:

1. The first recurrent epidemic of so-called influenza in New York presented anatomic variations from the pandemic disease of a year before: (*a*) in the form of frequent and wide spread inflammatory involvement of the pleura, characterized by semi-purulent and purulent exudates occurring in immediate association with pneumonic changes; (*b*) by multiple small pleural or subpleural abscesses; (*c*) by purulent infiltration of the interlobular and interlobar pleura; and (*d*) by solitary, oftener multiple, discrete or confluent intrapulmonary abscesses varying in size from a few millimeters to several centimeters.

2. In the pandemic disease of 1918, the participation of the pleura in the pneumonic process was conspicuous by its rarity. In the recurrent epidemic, pleural involvement occurred in 60% of all cases; and in 40%, purulent or semi-purulent effusions were present.

3. In the epidemic of 1918, intrapulmonary abscesses were virtually unknown accompaniments of the pneumonic process. In the recurrent epidemic, they were encountered in 35.5% of all cases. Of the total number of cases attended by pleural involvement (27 in all), multiple small pleural or subpleural abscesses occurred in 12, or in 44.4%.

4. As a result of the recurrent disease, sequelae may be expected in the form of (*a*) organization of the inflamed pleural membranes with partial or complete obliteration of the cavity and interference with the excursions of the corresponding lung; (*b*) delayed, diffuse or sacculated pleural or interlobar empyemas; (*c*) fibrosis of the lung following organization of exudate in the interlobar and interlobular septums of the pleura, and (*d*) gangrene of the lung and bronchiectatic cavities following secondary changes in intrapulmonary abscesses.

5. In the epidemic of 1918, pneumonia was virtually constant, both in point of incidence and in conformation to type. In the recurrent disease, pneumonia was a relatively infrequent event, and the anatomic vagaries in the distribution and structure of the lesions were so numerous that no two sets of lungs were similar in appearance, and often one lung differed markedly from its fellow.

6. In the pandemic disease in 1918, acute degenerative changes in the heart muscle, liver and kidneys were neither frequent nor intense. In the recurrent disease they were both common and severe. In the pandemic, the blood cultures were almost invariably sterile; in the epidemic, streptococcal septicemia occurred, we estimate, in about 10% of all pneumonias. [E. W. R.]

SHOCK AND ITS ALLIED CONDITIONS.

MCDONAGH, J. E. R. (*Practitioner*, August, 1920) presents a long and careful study of shock and its prevention and summarizes his conclusions as follows:

1. Shock, anaphylaxis, allergy, hypersensitiveness, and nitritoid crisis are all words for one phenomenon, which is an upset of the normal hydrogen ion concentration.

2. The symptoms of shock in guinea-pigs and rabbits are always the same, but in man they may be divided into (*a*) cardiac, (*b*) pulmonary.

3. Proteins, although emulsion colloids, produce shock (*a*) because they are more readily adsorbed to the colloidal protein particles in the serum, (*b*) because specificity plays a part by still further increasing such adsorption.

(Continued on page viii.)

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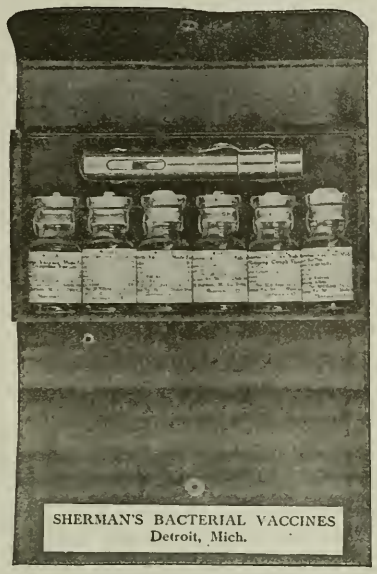

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(Continued from page vi.)

4. Shock can be prevented (*a*) by protecting the shock-producing substance; (*b*) by protecting the animal (anti-shock). The former is done by adding an amino-body and the latter by injecting a small dose intramuscularly first, or one or more sub-lethal doses intravenously or by making the first injection of the colloidal drug iso-electric or by injecting beforehand a colloidal preparation which has an opposite electric charge.

5. The course of shock can be checked by a timely injection of a colloidal preparation which has an opposite electric charge or by a mixture containing calcium chloride, glucose and gelatin.

6. Asthma, urticaria pigmentosa, and various chronic dermatoses may be symptoms of chronic shock.

7. The cuti-reaction and inflammatory reaction (Herxheimer's sign) are mild and local forms of shock.

8. There is no absolutely hard and fast line between shock-action and toxic action. [J. B. H.]

THE FATE OF BACTERIA INTRODUCED INTO THE UPPER AIR PASSAGES.

BLOOMFIELD, A. L. (*Johns Hopkins Hosp. Bull.*, June, 1920) in this article discusses the fate of the Friedlander bacilli when introduced into the upper air passages, and concludes that:

1. Friedlander bacilli, freshly isolated from various sources, were introduced into the normal upper air passages without producing local or general disease.

2. The organisms disappeared rapidly—usually within 24 hours.

3. It was not possible artificially to produce a carrier state.

4. The bacteria are removed by mechanical means.

5. This group of organisms when associated with disease usually act as secondary invaders. [J. B. H.]

PEDIATRICS.

BACILLARY DYSENTERY IN CHILDREN.

DAVIDSON, W. C. (*Johns Hopkins Hosp. Bull.*, July, 1920) presents a careful study of the etiology of bacillary dysentery in children and summarizes his work as follows:

1. Over 80% of the acute cases of ileocolitis, both in Baltimore and in Birmingham, were due to infection with B. dysenteriae.

2. B. dysenteriae (Flexner) is more prevalent than B. dysenteriae (Shiga) in Baltimore, Md., and Birmingham, Ala.

3. Clinically, as well as bacteriologically, the Baltimore and Birmingham cases were identical.

4. B. dysenteriae (either Flexner or Shiga) was not found in the stools of 63 cases of simple diarrhea, nor in those of 100 normal children.

5. The name "ileocolitis" should be changed to "dysentery in children," and the disease made reportable to the health authorities.

6. Dysentery (ileocolitis) is probably spread from the stools of one patient to the food and mouths of other children by flies and infected hands and not disseminated from a general dairy source.

7. Dysentery is less prevalent among children receiving breast milk or boiled milk and boiled milk mixtures in boiled containers.

8. The agglutination reactions of the patient's serum by standardized technique is of assistance in the diagnosis of dysentery.

9. B. Morgan No. 1, B. welchii, B. pyocyaneus, B. proteus and the Streptococcus fecalis are not the cause of dysentery (ileocolitis) or diarrhea.

[J. B. H.]

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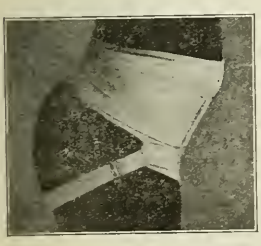

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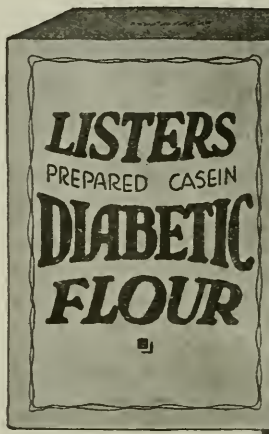

ARSPHENAMINE
AND
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Curiously certain physicians in this country do not appear to realize that there is an *official American designation* for Ehrlich's preparations.

The German patents on these compounds and thousands of other German owned patents were, during the war, seized by the Alien Property Custodian and sold *en bloc* to the "Chemical Foundation," an American corporation organized for the public good and not for private profit.

Acting under the advice of an eminent professor of chemistry in one of our leading universities, who was appointed advisory arsphenamine expert to the Government, the terms *arsphenamine and neoarsphenamine* were adopted as the *official American nomenclature.* These terms should be employed by all loyal American physicians. *The word salvarsan is a proprietary trade name,* as are likewise the designations Kharsivan (English), Diarsenol (Canadian and American), Arsaminol (Japanese and American), Arsenobenzol (French and American), etc., etc. If one wishes to refer particularly to a brand name it is proper to use these terms, but if one desires to refer to the compound itself he should use the official term, Arsphenamine. There are indications that England will likewise adopt this name.

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What Cooks Don't Know About Food Preparation Increases The Mortality Rate

EVERY physician knows that the best medical care, the most scrupulous attention to regimen can be discredited and undone by a course of badly-prepared food—or even by a few meals of improperly-prepared food. Indigestible, or badly-assimilated food may be the predisposing, if not the exciting, cause of many ailments medical men are commonly called upon to treat.

Butter, goose-grease, lard, and ordinary cooking compounds, which burn at a low temperature, are absorbed into the cell structure of the food—coating over the particles, rendering them infinitely less digestible.

Also, the low burning point of ordinary cooking fats tends to develop acrolein — intensely irritating to the delicate mucosa of the stomach and intestines.

Mazola can be heated to upwards of 650° before burning. The intense heat possible with Mazola cooking sears over the surfaces of the meat, fish, or other food; keeps in the savory juices and meat extracts, and prevents the absorption of the fat used in cooking. This, naturally, increases the digestibility and assimilability of the food.

Mazola is also perfectly delicious, used as a salad oil—replacing olive oil. Mazola carries from one to one and one-half per cent. of lecithin—giving it thereby this additional advantage in all nerve exhaustion and wasting conditions.

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VICTOR

Announcement of Merging of Victor Electric Corporation with X-Ray Interests of General Electric Company

An arrangement has been completed which took effect October 1, 1920, under which the entire business of the Victor Electric Corporation and X-Ray interests of the General Electric Company have been merged in a new corporation formed for the purpose and known as the VICTOR X-RAY CORPORATION. The new company has exchanged its capital stock for the X-Ray patents and good will of General Electric Company and for the assets and business of the old Victor Electric Corporation.

The formation of the new company will result in full manufacturing, engineering and research co-operation between Victor X-Ray Corporation and General Electric Company with respect to X-Ray problems. It will extend further the usefulness of the two companies and consequently, present needs for Coolidge tubes and other X-Ray devices will be adequately met.

The executive, administrative, engineering and sales staff of the old Victor Electric Corporation will remain practically unchanged. Mr. C. F. Samms becomes President and General Manager. Mr. J. B. Wantz retains full charge of manufacturing and designing. It is contemplated to bring about a complete co-ordination of the entire Victor Corporation organization with the research and engineering organization of General Electric Company with as little disturbance of the old relationships as possible.

Dr. W. D. Coolidge of the research laboratory of General Electric Company becomes Consulting Engineer of the Victor X-Ray Corporation. Mr. C. C. Darnell of the research laboratory of General Electric Company becomes the Commercial Engineer of the Victor X-Ray Corporation. Mr. W. S. Kendrick, who for many years had charge of the commercial sale of the Coolidge tube, will be General Sales Manager. Mr. L. B. Miller remains General Manager of Agency Sales.

The Victor X-Ray Corporation will continue to carry out the same liberal policies and practices toward the X-Ray trade that have already been established by the General Electric Company.

The primary purpose of this merger was to co-ordinate the efforts of the best and most constructive elements in the research, engineering and commercial divisions of the X-Ray field to the end that users of X-Ray equipment might be served in the best possible manner, and assurances are given by the officers of the new corporation that the ideal toward which they intend to strive is 100% service.

VICTOR X-RAY CORPORATION

C. F. Samms President

The Case For Coffee

Number Eleven

Coffee may well be regarded as an institution. Away back in 1610, Sandys, in describing his travels among the Turks mentioned "a drink called coffee which helpeth, as they say, digestion and procureth alacrity." The name and fame of Addison, Swift, Pope, Johnson, Goldsmith and many other literati are linked inseparably with the London coffee houses. Ale-house keepers in England undertook propaganda against coffee, called it a poisonous drug—but in vain. History has a habit of repeating itself. Prohibition in America is a *fait accompli*. Physicians realize and recognize that something must be substituted for the saloon. Some safe succedaneum must be provided for alcohol and for narcotics. These can be legislated out of existence, but human nature cannot be changed by law! Hence coffee will become, must become, more of an institution. It is neither narcotic, intoxicating nor habit-inducing.

But coffee which encourages social gathering, interchange of thought, discussion of ideas, the inborn disposition of human nature in man or woman to foregather either in club, saloon or coffee house, will help to replace bad habits with good habits. For coffee—like its sister—tea—provides "the cup that cheers but not inebriates." the means to stimulate not to deaden thought, to raise man not to debase him, thus fulfilling its destiny and making good in its object as intended by Nature —the mother of us all.

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Malnutrition, Marasmus or Atrophy

it is difficult to give fat in sufficient amounts to satisfy the nutritive needs; therefore, it is necessary to meet this emergency by substituting some other energy-giving food element. Carbohydrates in the form of maltose and dextrins in the proportion that is found in

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The method of preparing the diet and suggestions for meeting individual conditions sent to physicians upon request.

MELLIN'S FOOD COMPANY, BOSTON, MASS.

The Boston Medical and Surgical Journal

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Original Article.

THE LEUKOCYTIC REACTION IN A PARATYPHOID DYSENTERY AND FOLLOWING VACCINE INOCULATIONS.*

BY GENEVA TRYON, M.D., BOSTON,
Assistant Physician, Boston State Hospital.

THE occasion of this report was a dysentery which appeared as an epidemic[1] in 1915 in the Boston State Hospital. The organism which caused the disease belonged to the paratyphoid enteritidis group, but could not be identified with any of the well known members. Clinically, the disease appeared in three forms: a dysenteric-pneumonic, a dysenteric and a diarrheal. The duration of the disease was from five days to three weeks. The majority of the cases occurred among the old and feeble women patients in the Infirmary Department.

The twenty-two blood examinations in the table (I) represent twelve severe cases. The blood picture varied somewhat in different patients and in the same patient during the course of the disease. The total white counts were between 5,100 and 13,300. The differential count was not quite so variable as the total count, in that it remained more constant to the form of the disease. The per cent. of polynuclears was relatively higher and that of the lymphocytes lower in the pneumonic than in the pure dysenteric form. In the dysenteric cases uncomplicated with pneumonia, the lymphocytes persisted rather high during the first two weeks, between 27% and 40%; in two recovered pneumonic cases, the lymphocytes showed a high per cent. in the third week during convalescence, 37% and 43%. A count made in one case of an acute arthritis following a short severe attack of dysentery resembled the pneumonic cases. Eosinophiles were not found in any case during the first week; in the second week they reappeared in 5%-2%. Transitionals gave a higher per cent. in the first than in the second week. In all cases blood platelets were much increased throughout the disease and in early convalescence. There was no evidence of an anemia judging from the hemoglobin per cent. and the character of the red blood cells.

Reports of blood examinations in paratyphoid infections have not been numerous, but a review of them shows either a normal picture or changes in the white blood cells similar to those in typhoid fever. Uhlenroth and Hubener[2] state that there may be a leukopenia in the typhoid form of a paratyphoid B infection with an early loss of eosinophiles and a late relative increase in lymphocytes, quite like a true ty-

* This is one of a series of 15 papers (269,1919.12) offered to Professor E. E. Southard in honor of the decennium of the Bullard Professorship of Neuropathology, Harvard Medical School.

TABLE I. THE LEUKOCYTES IN A PARATYPHOID DYSENTERY.

CASE	DAY	TOTAL	POLY.	LYMPH.	TRANS. L. M.	EOSIN.	BAS.	REMARKS
R. W.	1	6,400	66	29	4.75		.25	T. 104.8°
M. G.	2	6,400	56	29	15			T. 102.8°
E. O'M.	3	13,100	68	31	1			Pneumonic
E. O'B.	3	5,400	59	27	14			
A. S.	4	5,100	77	13	10			Pneumonic. Death 5th day
M. C.	4		54	40	6			
D. O'B.	5		59	33	8			
M. C.	6	12,800	66	30	4			
E. M'K.	6	12,200	76	10	14			Pneumonic
M. P.	7		72	19	8			Pneumonic. Death 11th day
M. W.	8		53	41	4.5	.5		
J. C.	9		80	13	2	.5		Pneumonic
J. M.	10	8,800	63	25	6	2	1	Convalescent
M. G.	13		64.5	30	5	.5		
M. C.	14	10,000	62	34	3		1	
E. O'B.	15	8,000	65	31	3	.5		Convalescent
D. M'K.	17		59	37	3.5	.5		Protracted case
D. O'B.	18		65	26	2	7		Convalescent
T. S.	18	10,000	71	23.5	3.5	1.5	.5	T. 101°. Acute arthritis
M. W.	18		63	33	1	3		Convalescent
J. C.	19		52	43	4	.5		Convalescent
M. G.	23	8,200	65.5	25	9	.5		Convalescent

phoid. In a paratyphoid A[3] infection of typhoid form in this hospital in 1910, blood examinations showed total leukocyte counts between 3,200 and 8,000, with the lowest count on the fourth day. The lymphocytes showed a relative increase on the fourth day, and the eosinophiles, although not entirely disappearing, were reduced on the third day. Rolly[4] in 1911 reported total leukocyte counts made in about thirty-five cases of paratyphoid A and B infections of the paratyphoid form. In the B infections the counts were between 3000 and 7000, not apparently decreasing with the progress of the disease. In one case of paratyphoid A infection, six counts made between the twelfth and the twenty-second day fluctuated between 3800 and 6400. One of the cases of paratyphoid B is of interest in the light of our findings. This patient had a double pneumonia on the thirteenth day with a count of 17,000, falling to 6,200 on the twenty-fourth day with an improvement in the lung condition. Rolly questioned whether the pneumonia may not have been due to a mixed infection. Hall and Adam[5] in the present European war have studied blood smears from soldiers convalescent from dysenteries, typhoid fever and paratyphoid A and B infections. They observed a relative lymphocytosis with a low polynuclear per cent. following both typhoid fever and a paratyphoid A infection up to the thirteenth week. The fact that from the Mediterranean area all convalescents from a paratyphoid A infection showed a normally high polynuclear per cent. indicated to the writers that these patients may have suffered from another form of dysentery, amoebic or bacillary, at the same time. They did not explain the normal polynuclear per cent. found in all convalescents from a paratyphoid B infection, nor did they mention the clinical form of the disease. Ordway[6] in an experimental study of rabbits suffering from a typhoid-like disease caused by the bacillus suipestifer, observed that the total white blood counts were not altered by the infection.

In this epidemic dysentery the one persistent similarity to a typhoid picture was the loss of eosinophiles during the first week. It is probable that the increase in polynuclears in some cases was related to the pneumonic process. In two septicemic pneumonic cases that came to autopsy, the paratyphoid bacillus was found in the lung lesions associated with a streptococcus in one case and a staphylococcus in the other. We have not sufficient data to say whether higher counts are more usual in a dysenteric than in a typhoid form of a paratyphoid infection.

THE LEUKOCYTIC REACTION FOLLOWING VACCINE INOCULATIONS.

Gay and Claypole[7] in their experiments in typhoid immunization found that a specific hyperleukocytosis, preceded by a leukopenia was produced in typhoid immune rabbits by inoculations with typhoid vaccine, and that the increase in cells was due to the polymorphonuclear. The leukocytic response was more rapid and rose to a greater height in the immunized rabbit than in the normal animal. H. I. McWilliams[8] in a more recent report of similar experiments with rabbits noted a hyperleukocytosis which was not of a higher grade in the immune than in the non-immune animal.

Both Gay[9] and McWilliams[10] have described the leukocytic reaction following injections of

vaccine in typhoid fever. A chill and rise in temperature are coincident with a leukopenia shortly after the inoculation, and a few hours later, with the lowering of the temperature and a lessening of symptoms, there is a high grade hyperleukocytosis. The relation of the hyperleukocytosis or "leukocytic crisis" to the freeing of the antibodies indicates the possible value of these studies in vaccine therapy and prophylactic immunization. Although the blood examinations in this paratyphoid dysentery have been limited to human cases and have not the exactness of results obtained in animal experimentation, they have a certain clinical value because it has been possible to observe these cases over a number of months.

A polymorphonuclear leukocytosis both actual and relative was demonstrated in one protracted case (M. G.) during the first outbreak of dysentery after a repeated therapeutic dose of the dysenteric vaccine. Six hours after a subcutaneous injection of 75,000,000, the total count rose from 6400 to 19,400 and the polymorphonuclears from 56% to 76% with a loss of eosinophiles. No constitutional reaction followed successive small doses in this patient, although there was an apparent improvement in symptoms.

A polymorphonuclear leukocytosis was observed in a second case eighteen hours after an initial prophylactic inoculation of 500,000,000 and six hours after the onset of a severe constitutional reaction with fever and vomiting. Total count, 18,800; polymorphonuclears, .92; lymphocytes, .08; large mononuclears, transitionals and eosinophiles, 0. This was the only count made in this case. There is no record 11 months later that this patient has had an attack of the disease.

Because of these isolated observations it seemed worth while to study the leukocytic reaction more carefully, and during the seventeen months following the first outbreak of the disease several series of examinations were made, including one woman and four men who had neither the disease nor prophylactic treatment, and four women who had had the disease from nine to seventeen months previously (Tables II and III). Subcutaneous injections of vaccine were given for two or three successive weeks in doses as in prophylactic treatment, beginning with 500,000,000. In two cases the counts were taken at two-hour intervals during the first 26 hours after the inoculation. In all the other cases, counts were taken either during the first twelve or second twelve hours at one-half, one hour, or two-hour intervals.* Differential as well as total counts were made and a control count was made in each case. There was no constitutional reaction observed in any of these cases and the local reaction was a moderate one.

TABLE II. LEUKOCYTIC REACTION FOLLOWING VACCINE INOCULATIONS IN THOSE WHO HAVE HAD THE DISEASE.

Case J. W. Dysentery 11 months previously. Vaccine 500,000,000

TIME	TOTAL	% POLY.	% LYMPH.	% TRANS. L. M.	% EOSIN.	% BAS.
Control						
	6,300	56	36.5	4.5	1.5	1.5
Hours after inoculation						
12	9,100					
14	10,000	70	25	5		
15¾	10,400	70	25	2.5	1	1.5
18	7,200	61	35	3.5	.5	
20	6,800	56	43	1		

Case J. W. Dysentery 11 months previously, seven days after first inoculation. Vaccine 1,000,000,000.

TIME	TOTAL	% POLY.	% LYMPH.	% TRANS. L. M.	% EOSIN.	% BAS.
Control						
	7,300	57.5	31.5	8	2	1
Hours after inoculation.						
12	11,400	61	30	8	1	
14	11,300	75.5	18.5	5	1	
16	10,600					
18	10,600	76	18	6		
20	10,200	59.5	40		.5	

Case J. W. Dysentery 11 months previously, eighteen days after second inoculation. Vaccine 1,000,000.

TIME	TOTAL	% POLY.	% LYMPH.	% TRANS. L. M.	% EOSIN.	% MAST.
Control						
	9,100	38.5	56.5	2.5	1.5	1
Hours after inoculation.						
12¼	4,600	68	27.5	2.5	1	1
13¼	9,900	64.5	25.5	6	2	
14¼	9,400	63	32	3	2	
15¼	17,300	68	28	3	1	
17¼	10,800	64	32	3.5	.5	
19¼	11,500	63	36.5	.5		
21½	11,900	69	30		1	
23½	9,900	63	33.5	2.5	1	

Case A. O. Twelve months after first attack, second day after recovery from second attack. Vaccine 500,000,000.

TIME	TOTAL	% POLY.	% LYMPH.	% TRANS. L. M.	% EOSIN.	% BAS.
Control						
	7,400					
Hours after inoculation.						
12¼	12,200					
13¼	14,500					
14¼	15,200	76	19	4	.5	.5
15¼	19,500	72	20	2.5	5	.5
17¼	22,700	71.5	20.5	1.5	4.5	2
19¼	13,600	71	22.5	4	2.5	
21½	17,300	60	35	2.5	2.5	
23½	10,000	45	47.5	4	3.5	

* A number of these counts were made by Mr. John C. Rock of the Harvard Medical School.

Case A. O. Eighth day after first inoculation, tenth day after recovery from second attack.
Vaccine 1,000,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Bas.
Control						
	7,000	42	45	5.5	6	1.5
Hours after inoculation.						
14	9,100	58	37.5	1	3.5	
15	9,600	65	33	2		
16	7,800	59.5	34	4	2	.5
17	7,400	62	33	1.5	3.5	
18	7,300	66.5	29	2.5	1	1
19	8,500	73	24	2	1	0
20	8,900	73	24	0	2	1
21	10,700	78	19	1	2	0
22	11,300	71	26	1	2	0

Case M. G. Dysentery nine months previously.
Vaccine 500,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Bas.	Temp.
Control							
	7,800	60	35	3	2		98.6
Hours after inoculation.							
2	8,600	72	20.5	5.5	2		98
4	8,200	....	....	....	....		98
6	6,800	56.5	34.5	7	2		98.4
8	9,800	69.5	25	4	1.5		98.2
10	13,300	66	28.5	4	1.5		98.8
12	15,500	54.5	36.5	8	1		98.8
14	13,900	64	30	6	0	.5	98
16	11,700	64	35.5	.5	0		98
18	9,300	71	25	3	1		98
20	10,600	73.5	20	5	1.5		97
22	10,600	76	22	2	0		98.2
24	9,000	63	31	6	0		98.4
26	9,000	78	22	0	0		99.4

Case M. G. Third day recurrent attack, 17 months after first attack.
Vaccine 500,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Bas.
Control						
	9,900	60	34.5	5	.5	
Hours after inoculation						
½	13,200	59.5	37.5	2	1	
1	10,700	61	34.5	2.5	2	
1½	9,800	67.25	28.5	4.25		
2	7,600	44	54	2		
3	7,800	66	32		2	
19½	7,100	80	20	0	0	0
20½	10,400	70	26	2	1	1
21¼	11,000	71	26	2	1	0
22¼	10,700	81	19		0	0
23¼	9,600	73	26	1	0	0
24¼	13,700	71	29	0	0	0

Case M. C. Sixteen months after first attack.
Vaccine 500,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Bas.
Control						
	12,700	57	40	0	3	0
Hours after inoculation						
2½	8,400	68	26	0	5	1
3	10,400	67	29	0	3	1
6	10,100	52	44	0	4	0
8	10,700	50	48	1	1	
10	11,600	62	37	0	1	0
11	11,400	65	47	0	1	0
12	10,500	60	34	3.5	2.5	

Case M. C. Seven days after first inoculation.
Vaccine 1,000,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Bas.
Control						
	12,400					
Hours after inoculation						
2	9,600	56	39	1	4	
4	14,200	58	33	3	5	1
6	9,200	58	31	4	6	1
9	12,000	54	41	3	2	
11	14,000	40	55	4	1	

Case M. C. Nine days after second inoculation.
Vaccine 1,000,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Bas.
Control						
	9,100	49	50	.5	.5	
Hours after inoculation						
2	12,500	68	28	1	3	
3	11,500	56	42	1	1	
5	15,100	75	25	0	0	
6	14,600	60	40	0	0	
7¼	14,300	70	30	0	0	
8¼	13,700	60	40	0	0	
10	11,900	74	25	0	1	

Case M. C. One month after vaccination, second day after recovery from recurrent attack.
Vaccine 500,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Bas.
Control						
	13,900	50	39	10	1	
Hours after inoculation						
½	12,200	49	45	4	2	
1	7,400	56	40	2	2	
1½	6,200	49	44.5	2.5	4	
2	9,600	79	21	0	9	
3	9,700	51	41.5	5	2.5	
19	8,200	64	27.5	8	.5	
20	9,000	76	19.5	.5	4	
20¾	8,300	63	34	2	1	
21	11,200	66	31.5	1	.5	
22	9,900					
23	12,500	77	18.5	3	1.25	.25

TABLE III. THE LEUCOCYTIC REACTION IN PROPHYLACTIC TREATMENT.

Case W. F. Prophylactic treatment.
Vaccine 500,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Mast.
Control						
	11,600	64	29	1	6	
Hours after inoculation						
2	9,400	67.5	28	0	4.5	0
4	10,300	59	35.5	1	4	.5
6	9,300	59	33	1	6	1
8¼	9,500	67	29	0	4	0
10¼	10,800	70.5	25	1	3	.5
22½	12,700	64	30	2	3	1
24½	12,000	69	29	1	1	

Case W. F. Second inoculation.
Vaccine 1,000,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Bas.
Control						
	9,200	67	21	8	4	
Hours after inoculation						
2	11,000	69.5	24.5	3.5	2.5	
4	14,400	73.5	20.5	5.5	.5	
6¼	13,300	74	17.5	2.5	5.5	.5
9½	15,400	73.5	21.5	2.5	2.5	
11½	16,500	78	14	4	4	

Case W. F. Third inoculation.
Vaccine 1,000,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Bas.
Control						
	10,000	69	28.5	1	1.5	
Hours after inoculation						
2	11,500	74	20	2.5	3.5	
3	7,800	60.5	33	2	4.5	
5	12,900	78	18	1	3	
6	13,000	69	21.5	4	5	.5
7	12,600	69	27		4	
8	13,000	75	21		4	
10	13,300	64	32	1	3	

Case C. H. Prophylactic treatment.
Vaccine 500,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Bas.	Temp.
Control							
	5,100	42	47.5	7.5	3		98
Hours after inoculation							
2	6,800	51	37.5	8	.5	3	98.6
4	7,200	45	47	5		3	98.8
6	9,400	70.5	25	4	.5		99
8	9,400	66	25	6	2.5	.5	98.8
10	10,800	62	29.5	6	2	.5	99
12	12,900	59	29.5	6.5	3	2	99
14	10,400	57	32	8	1	2	98
16	7,800	56	36	5	2	1	98
18	6,800	53	41	5	1		97.6
20	7,200	48	43	7	1	1	97.2
22	6,400	49	40	9	1	1	99
24	7,500	58	29	12	1		99
26	6,800	50	44	5			99

Case S. S. Prophylactic treatment.
Vaccine 500,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Bas.
Control						
	5,400	63	26	6	5	
Hours after inoculation						
12	8,400	62	29	7	2	
14	11,400	63.5	30		5	1.5
16	10,900	56	36	3	4	1
18	12,400	51	40	5	3	1

Case S. S. Second inoculation.
Vaccine 1,000,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Bas.
Control						
	9,400	53	42	3	1.5	.5
Hours after inoculation						
12	19,500	62.5	35.5	1	1	
14	14,800	50	42.5	3	4	.5
16	13,200	72	24	2	2	
18	20,200	73	22	2	3	
20	16,000	64.5	31	3	1.5	

Case F. N. Prophylactic treatment. First inoculation.
Vaccine 500,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Mast.
Control						
	12,400	69	27	1	3	
Hours after inoculation						
2	14,000	73	23	3	1	
4	11,300	67	29		4	
6	10,200	74	19	2	5	
8	10,200	78	14	2.5	5	.5
10	12,000	60.5	32	2	5	.5
22	14,600					
24	13,000					

Case F. N. Prophylactic treatment. Second inoculation.
Vaccine 1,000,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Mast.	
Control							
	12,200						
Hours after inoculation							
2	14,500	80	15.5	3	1.5		
4¼	23,000	72	21.5	1	4.5	1	
6¼	24,000	69	27	1	2	1	
8¾	19,400	79	17	1	3		
10¾	16,000	63	30	2	5		

Case H. D. Prophylactic treatment.
Vaccine 500,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Bas.
Control						
	6,600	49	46	1	4	
Hours after inoculation						
12	10,400	61	29	5	5	
14	10,800	69	22	2	7	
16	11,500	77	19	1	3	
18	13,000	60	34	3	3	
20	9,900	58	36	1	5	

Case H. D. Second inoculation.
Vaccine 1,000,000,000.

Time	Total	% Poly.	% Lymph.	% Trans. L. M.	% Eosin.	% Bas.
Control						
	8,000					
Hours after inoculation						
12	13,200	66	28	5	1	
14	13,500	75	20	2	3	
16	14,300	77	20	2	1	
18	11,500	62	36	2		
20	14,200	59	38	1	2	

The leukocytic reaction consisted of a hyperleukocytosis, with the highest count rising but little above twice that of the normal count for the individual and a relative increase in polynuclears at one or more periods during the following twenty-four hours, this relative increase not always being synchronous with the highest total count.

The reaction was somewhat more marked after the second or third inoculation than after the first, except in one case (A. O.) in which the vaccine was injected shortly after a recurrent attack. In this case the reaction was greater after the first injection of 500,000,000 two days after the attack than after the second inocula-

tion of 1,000,000,000, seven days later. One case (M. G.) referred to above as showing marked reaction to vaccine therapy in the first attack, showed a moderate reaction both in total and differential counts following an inoculation of 500,000,000 nine months later; and on the third day of a recurrent attack seventeen months later gave evidence of a reaction only in a relative increase in polymorphonuclears following an injection of 500,000,000. The diarrhea in this last instance ceased a few hours after the inoculation and there was no evident constitutional disturbance. The recurrent attacks were milder than the first one and appeared usually in the form of a diarrhea.

There is no record that the individuals chosen as normal cases in this series of examinations have had an attack of dysentery or diarrhea.

In comparing the leukocytic reaction with the clinical history in these cases the following conclusions have been made:

1. The stronger normal individuals show more reaction to subcutaneous injections of vaccine than the weaker ones who have had the disease and recurrent attacks.

2. The leukocytic reaction for the individual is more marked during or immediately after an attack of the disease and diminishes with recurrent attacks. This corresponds to the clinical observation that the resistance of the individual to the disease is lessened by a previous attack.

3. The fact that there may be a polymorphonuclear reaction to a subcutaneous injection of vaccine, coincident with the cessation of a diarrhea would indicate the use of a vaccine therapy. In the few cases in which this treatment has been given the results have been favorable for a recovery from an attack.

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Clinical Department.

THE COMBINED OPERATIVE AND RADIUM TREATMENT OF MALIGNANT DISEASE OF THE NASAL ACCESSORY SINUSES.* †

CASES REPORTED FROM THE HUNTINGTON MEMORIAL HOSPITAL AND THE MASSACHUSETTS GENERAL HOSPITAL.

BY HARRY A. BARNES, M.D., BOSTON.

UP to the present time the results of operative treatment of malignant disease of the accessory sinuses of the nose have not been such as to warrant any great degree of optimism as to permanent results. The prognosis has been distinctly bad. It is the object of this paper to point out some of the reasons for this; to show that some of them should not exist today; and to suggest methods that may perhaps cut down the potency of others.

These causes may be grouped under four headings:

First—The Difficulties of Early Diagnosis. Owing to the fact that the parts are wholly hidden from view, the disease always makes considerable headway before the patient is aware of any trouble whatsoever. This condition is inevitable. But even after the appearance of the first subjective symptoms the diagnosis is often one of great difficulty, more especially if the disease is primary in the antrum. Pain in the alveolus is a common early symptom, and is almost invariably mistaken for some dental affection. Combined with this there may be pain in the cheek, usually mild and dull in character or even what might be termed a sensation rather than a pain, and suggesting a sub-acute empyema. There may be some pus in the middle meatus, though I think this is rare. Swelling of the cheek without redness may occur fairly early, but it is usually of later date than the pain. Transillumination and x-ray will of course suggest empyema. Puncture of the inferior meatus seldom reveals pus, is often negative, but does in many instances show a bloody serum which cannot be accounted for by a simple inflammatory congestion of the mucosa. In those cases in which a small amount of pus is found, it is apt to be mingled with a sufficient amount of this bloody serum to arouse the sus-

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picion that we are not dealing with a simple empyema. Bulging of the naso-antral wall may be evident. Epistaxis, exophthalmus or any actual appearance of tumor mass in the nose are of course of much later date and do not specially concern us here. When they occur the diagnosis should be evident. In any case of supposed empyema of the antrum, acute or sub-acute, which does not run exactly according to Hoyle, but has some of the above peculiarities, an opening should be made through the canine fossa, a good view of the cavity obtained and the exact condition of its mucosa noted. The microscope will settle any doubtful appearances. Symptoms of secondary involvement of the ethmoid usually do not occur until after the antral symptoms have been pronounced for some time. On the other hand, primary disease of the ethmoid gives rise to nasal obstruction and epistaxis, one or both, fairly early. I think the disease is more apt to be discovered in its incipiency here than anywhere else in the sinuses. Once the patient has sought relief for either of these symptoms, the diagnosis should not be long delayed. Nevertheless, the earliest of the cases reported here, one of this type, had had repeated severe epistaxis for two and one half months before he was referred for treatment, and at that time had a soft tumor mass that completely filled the right naris. Delays of this kind, after the stage of doubtful diagnosis has passed, are among the most unfortunate obstacles we have to contend with in the successful treatment of malignant tumors. It would be pleasing if one could be assured that most of them are due solely to ignorance and indifference on the part of the patient.

Second—The Incompleteness of the Operation. Most of these cases, when they finally come to operation, are operated upon by the general surgeon. With all due respect to him, his operation, excision of the upper jaw, has been a poor one. Many of these cases are primary in the ethmoid; many more involve the ethmoid and sphenoid secondarily; and so it is that only when the disease is confined to the antrum, can this excision of the upper jaw be of any use whatever. It may be noted here that these tumors seldom involve the frontal. Primary malignant disease occasionally occurs there; but for some unknown reason, cancer of the ethmoid shows little or no tendency to advance in that direction. On the other hand, the sphenoid is very frequently involved secondarily.

Third—The Necessity of Removing the Tumor Mass by Exenteration. In order to avoid the dangers either of implantation or of metastases, in operating on malignant disease it is axiomatic that the tumor should be handled as little as possible, and should be removed by an incision through the surrounding normal tissues, the growth itself remaining intact. Obviously this rule must be ignored in operations on the sinuses, since no margin of normal tissue can be removed; and the tumor not only cannot be taken out intact, but must actually be removed piecemeal and by a process of maceration. It is in counteracting the evils of this condition that radium plays its most important rôle in the treatment of malignant disease of the sinuses. In the preoperative stage it may be employed to reduce the vitality of the tumor cells. I have never used it primarily for this purpose; but observation of its effects upon non-operable tumors makes its use in this connection seem feasible. It is, however, on its post-operative use that I should like principally to lay stress. And by post-operative, I do not mean ten days or two weeks after operation. Such delay means, I believe, a loss of much of the help that radium is capable of giving, if used immediately on the whole operative field. A tube of radiating strength of 35 or 40 m.c., screened with steel, placed in the centre of the antral pack and allowed to remain there throughout convalescence, gives a mild radiation of all the parts, except possibly the sphenoid. No burning action results from this, as the tube is screened with steel. There is also the additional protection of distance, all parts of the field being at least a centimeter away from the tube. The radiation is, however, probably quite sufficient to destroy those microscopic particles of tumor that must of necessity be left on certain parts of the bony walls of the cavity, especially in the region of the cribriform plate, and to make less likely metastases due to the crushing nature of the operation. The radium should of course be replaced with each dressing during convalescence. Subsequent radium treatment must be employed, but it seems to me that this immediate radiation is the *sine qua non* of this method of treatment, and will go far towards making the operation a success.

Fourth—The Difficulty of Accurately Observing the Field after Operation. It is difficult to see satisfactorily many parts of the operative cavity by examination through the naris, and impossible to see the antrum at all. In the latter situation especially, recurrence cannot be detected until it has reached a somewhat advanced stage. Even in the ethmoid and sphenoid a more intimate view than can be obtained through the nose is desirable. What may be called the wide open treatment of these cases removes this difficulty entirely. For this purpose a triangular flap of integument, having its base in the upper incision and its apex at the lower limits of the antrum is removed from the cheek, even in those cases in which the skin of the cheek is not involved, leaving a permanent opening into the operative cavity. The older method of simply leaving the wound unsutured and keeping it open by wicking is entirely inadequate, as the parts soon contract and a good view of the whole field becomes impossible. After the wide open V-operation, however, the slightest change in the antrum, ethmoid or sphenoid, may be observed, and appropriate treatment, either operative or with radium, applied at once. The deformity following this is not great, even when a cosmetic plate is not worn. A small piece of cotton or gauze tucked into the opening gives the appearance of an ordinary cocoon.

What cases are operable? In one of our more recent textbooks the statement is made that these tumors are inoperable if they have invaded the ethmoid. This surely is not so. Even without the post-operative treatment with radium, many of these cases would be benefited by radical operation because of the relief from distressing symptoms, especially pain; and occasional permanent cures would undoubtedly be obtained. This is especially true of the sarcomas. With the combination of operation and radiation it is hard to say just where the limit of the operative case should be drawn. There is nothing in the face that is vital and it is remarkable what a large portion of it may be removed without causing a too distressing deformity. Fortunately, too, these tumors form metastases slowly. I am almost inclined to regard any case as operable that does not show involvement of the brain or metastases in the neck. Of course this is a very broad statement and is probably not strictly true. I have long believed, however, that in the past we have thrown up our hands too quickly in the management of this class of malignant growths; and recent experience, together with some unexpected and gratifying results from operation on a group of most unfavorable cases, has tended to confirm this view.

The Operation. The operation is always a bloody one; so much so that a preliminary tying of the external carotid is often done. It hardly seems necessary, however, as the bleeding, no matter how severe, can be controlled absolutely by packing, and has a tendency to diminish rapidly in inverse ratio to the amount of tumor mass removed. In none of my cases was the amount of blood lost sufficient to affect seriously the condition of the patient, nor indeed markedly to prolong the operation. The naso-pharynx is first securely packed. This should be done with care, as nothing is more embarrassing than to find the pack working loose in the midst of the operation. The soft palate is pulled forward with a retractor and a three-inch gauze strip is fed behind it with curved forceps (a small Hooper adenoid forceps is excellent for the purpose). When the space is lightly filled, the gauze should be pressed tightly into place with the finger. By alternately using the forceps and the finger, a firm and uniform pack will be secured. The ether, up to this time, is given by the ordinary cone method. For the remainder of the operation it is given through a Rocci tube, which is now inserted through the mouth into the lower pharynx. A strip of gauze should be packed lightly around it in the pharynx, so as to hold it accurately in position. I know of no other method of etherization as satisfactory for these cases. The patient gets plenty of air and enough ether, without the irritation produced by many of the pumping machines.

The Moure incision is made in the cheek. The upper of the two cuts should not be made too near the rim of the orbit, as the subsequent oedema of the lower lid is much less if a fair margin of tissue be left here. After the front wall of the antrum has been exposed and removed, the main mass of the tumor should be evulsed as rapidly as possible. In some of the softer tumors the finger will be found the best instrument for doing this. In the ethmoid and sphenoidal regions the mastoid curette is serviceable. I have found the small tonsil ring punch invaluable wherever the space will allow

of its use. The various angular cutting forceps ordinarily used in ethmoid and sphenoid work are all likely to be of service. When the alveolus and the hard palate are involved, heavy rongeur forceps are necessary. Practically regardless of anatomical considerations, every particle of tumor tissue, all necrotic or soft bone should be removed. I doubt if the bone is usually directly involved except in sarcomas of bony origin. It seems rather to undergo either a pressure necrosis or a necrosis due to the cutting off of the blood supply. At all events, if all soft bone is removed, the remaining bony margins show little or no tendency toward malignant recurrence. Wherever possible, it is of course desirable to remove a small margin of normal tissue. In the sphenoid and ethmoid this is impossible, nor is it desirable in the antrum except in the alveolus and the palate, where it may be accomplished without danger to other important structures. The same is true of the nasal septum. If parts of the antro-orbital wall or of the os planum are gone, it may be a hard question to decide what to do with the eye. If the orbital tissues are apparently not invaded, I believe the eye may be left, post-operative radiation of the parts being depended upon to check any further extension in this direction. If there is any question of the involvement of the orbit, an exenteration should undoubtedly be done. Case 1 in the ensuing report is interesting from this standpoint. After all the tumor tissue has been removed, the V-shaped flap alluded to above is cut from the cheek and the cavity lightly packed with gauze, in the center of which a radium tube* of appropriate strength is placed.

* At the Huntington Hospital radium is not used as such, but in the form of radium emanations, a gaseous product that is given off from the element itself and collected in small glass tubes about half a millimeter in diameter. These tubes give off the same kind of rays as radium. These are of three kinds: the Alpha, the Beta, and the Gamma. The alpha and beta rays are extremely burning in character, but have only slight penetrating powers, particularly the former, which are stopped by a single sheet of paper. They constitute respectively ten and eighty-nine per cent. of all the rays that pass through the glass of the tube. The gamma rays have little burning action but have great penetrating power. They constitute one per cent. only of all the rays. The tubes are of carefully measured radiating strength and may be used directly on the patient and discarded when their radiation becomes too feeble to be of any further value. If a burning destructive action is desired, the tubes may be used without covering of any sort and either held near the part or inserted directly into the tissues by means of a cannula. When a milder action is wanted, the rays must be screened, that is, certain of the burning rays must be sifted out, and for this purpose either the tube is held a longer distance from the part, by means of gauze, or covered with a steel jacket. Usually both these methods are employed. The severity of the reaction then may be controlled by the radiating strength of the tube, by the time of exposure and the amount and character of the screening. Parts that are not intended to be radiated at all but are in the immediate vicinity of the neoplasm are protected by means of sheets of lead of varying thickness according to circumstances. The unit of radiation is the millicurie, which is equal to the radiation from one milligram of radium.

This tube remains in place about two weeks, being reinserted with each dressing during that period. As the tube loses one-sixth of its radiating strength every twenty-four hours, it is to all intents and purposes inert at the end of convalescence. It has been my rule to give these patients three or four subsequent radium treatments at weekly intervals. This has been done even when all of the gross tumor tissue was successfully removed and when no signs of recurrence were present. I believe that this precaution is based on common sense. If any recurrence is to take place, it must of course arise from microscopic cells or fragments that are left in place in spite of the most thorough operation. Ordinary prudence demands that radium be used on them when they are most vulnerable to that form of attack; and although successful cases might result from operation alone, it seems folly not to take this simple precautionary measure before there is any recurrence, rather than to wait until it becomes obvious. In these radium treatments one should be careful to avoid any marked reaction in the tissues. A destructive action in the ordinary sense is not desired, as there is no gross tissue to be destroyed. Such destructive action may do no great harm in some parts of the cavity but it does no good at this stage of affairs. It may cause a very painful slough; and in the neighborhood of the ethmoid or the sphenoid might be dangerous on account of possible bony necrosis.

As to the relative value of these two methods of treatment, operation must be given the first place, in that it sometimes accomplishes its object without the subsequent use of radium. On the other hand, radium without operation is useless. One might as well try to stop a conflagration with a garden hose as to treat these massive tumors of the sinuses with radium alone. It is a losing fight from the start. For this reason, in combining the two methods, the operation must be as thorough as possible. If any macroscopic parts of the tumor are allowed to remain, the chances of subsequent radiation being successful are slight. Case 4 in this series illustrates this well, in that the density and toughness of the tumor tissue made its complete removal in the region of the cribriform plate extremely hazardous. The recurrence was immediate and its course little affected by most vigorous radiation. Thorough operation combined with immediate radiation through a

wide opening in the face which for purposes of observation is allowed to remain permanently, will give, I believe, better results than we have been accustomed to consider possible. The following cases are reported in substantiation of this view.

In this series there were six carcinomata, one small round-celled sarcoma and one fibro-sarcoma. With the exception of the fibro-sarcoma, all were of the hopeless type of case, of long-standing and involving both the ethmoid and the sphenoid. Three (all carcinoma) were operations for recurrence and one (sarcoma) had had an enucleation of the eye one year previously, at which time further operative measures were abandoned because of the extent of the disease in the ethmoid region. The case of fibro-sarcoma shows no evidence of recurrence fourteen months after operation. The case of small, round celled sarcoma has no recurrence twenty-six months after operation. Of the carcinomata three are dead; one is in the last stages of exhaustion, with very extensive recurrence; two are well and with no evidence of recurrence or metastases twenty-five months and seventeen months respectively after operation. One case, a carcinoma involving all the sinuses except the frontal, of over a year's standing, died of septic meningitis following the operation. Of the eight cases, four (50 per cent.) are without recurrence up to the present time.

CASE REPORTS.

CASE 1. C. H. Female. Age, 46. Family History—One sister died of cancer of the breast. Past History—Has always been well. Present History—Right cheek began to swell in August, 1917. Had three molar teeth extracted on that side because of pain. Swelling gradually increased, and she went to the Massachusetts General Hospital September 23rd. Physical Examination at that time showed a grayish mass occupying right nostril and completely occluding it. The nasopharynx was filled with a grayish mass. Transillumination showed the right antrum very dark. The frontals lighted well. Clinical Diagnosis—Sarcoma of nasopharynx. Operation—October 18, Dr. D. C. Greene. Through a Moure incision mass in right antrum and nares was exenterated. Pathological Report from tissue removed. "Irregular soft fragment. Microscope shows large solid masses of undifferentiated cells and stroma. Many mitotic figures. Carcinoma."

She was advised to go to the Huntington Hospital for post-operative radium treatment, but failed to appear until January 14, nearly three months after operation. At that time I found a very extensive recurrence and made the following note of the condition: "Over right cheek is an indefinite swelling, somewhat indurated on deep palpation. Nasal examination shows a granulating mass projecting from the antrum and occupying practically the whole of the naso-antral opening made at the time of operation." She was returned to the Massachusetts General Hospital with question of reoperation, which, however, was considered inadvisable, and on January 25 a long course of radium treatment was begun, which had little effect on the extension of the growth. These treatments were given weekly or bi-weekly, and consisted in the insertion, into the mass, of the usual radium tube screened with steel and of varying strength and time of exposure. On February 11, the mucosa of the right upper alveolus showed signs of involvement and on March 4 was extensively ulcerated. At this time the whole right cheek was very red and swollen and the tumor had entirely filled the right naris. The last radium treatment before her second operation was on April 29.

Second Operation. (H. A. B.) At her urgent request, she was admitted to the Massachusetts General Hospital on May 14. Moure incision through the right cheek. The antrum, ethmoid and sphenoid completely exenterated. Nearly the whole of the nasal septum was found involved and removed. The same was true of the right upper alveolus and palatal process of the superior maxilla, which were also removed. The antro-orbital wall was absorbed anteriorly and the orbital tissues were apparently involved over a surface about 2 cm. in diameter. Inasmuch as the patient's consent for enucleation had not been obtained, only as much of the orbital tissue was removed as was compatible with preserving the eye-ball. The deeper structures of the flap of the cheek were also involved so that the skin in this region was shaved down to the thickness of about one-eighth of an inch. Thirty-five millicuries of radium screened with a steel jacket was placed in the centre of the cavity and held in place by the gauze packing. This was allowed to remain in the cavity throughout convalescence and until she could return to the Huntington Hospital for more vigorous radium treatment. May 22 a tube of 35 millicuries screened with steel and ¼ cm. of gauze was placed immediately under the suspicious area in the orbital region and again ¼ inch away from the suspicious area in the skin flap. Duration one hour in each of these positions. May 29, two tubes of 53.1 and 38.1 respectively with the usual steel and gauze screening were placed in various positions in the cavity, their positions being changed every half hour so that in two hours' time every portion of the operative field received intensive treatment for one-half hour. June 5, 12, 19 and 26 this treatment was repeated. On the latter date the interior

of the cavity was clean and there was no sign of any recurrence, even over the suspicious area in the orbit. The skin over the cheek had sloughed through, leaving a triangular opening into the antrum. No sign of carcinoma in this flap. At this time patient weighed 115 pounds. Normal weight, 150 pounds.

I did not see the patient again until December 18. She had been seen several times during the summer by Dr. J. P. Clark, who at no time found any evidence of recurrence. On December 18, there was a good deal of crusting in the cavity, but when this was cleaned away there were no signs of granulation or infiltration. On March 3, 1919, there was a slight granulating area about the size of a split pea on the superior wall of the cavity. This was removed for microscopic examination and the denuded surface radiated with 58 mc., screened with steel and ¼ inch gauze, for one hour and fifteen minutes. Pathological Report on piece of tissue removed —"Simple granulation tissue." Patient at this time weighed 125 pounds. She continued to gain steadily in weight and was referred to Dr. George H. Wright for dental plate and also an aesthetic plate to fill in opening in the cheek. At the present time, June 1, 1920, there is no recurrence. Patient now weighs 150 pounds.

Case 2. J. A. E. Male. Age, 50. Family History and Past History—Unimportant. Present Illness—In June, 1915, he first noticed some diminution in vision of the left eye. Three months later a swelling appeared near the left eyebrow. On December 7, 1915, a Krönlein operation was done by Dr. Lincoln Davis at the Massachusetts Eye and Ear Infirmary. Pathological diagnosis of tissue removed at operation, "Multiple Myeoloma." He came to the Huntington Hospital December 19, 1915. Physical examination at this time showed marked exophthalmus, slight conjunctivitis, both lids somewhat oedematous, inability to completely close the eye. Wassermann reaction was negative. He received radium treatment without any marked effect on the condition of the eye up to January 13, 1917. The exophthalmus had increased somewhat. The vision had decreased, but not sufficiently to interfere with his work. On March 13, 1917, Dr. Verhoeff removed the left eye but found the orbital tissues, anteriorly, normal. The posterior two-thirds of the naso-antral wall and of the os planum were destroyed, through the opening in which a tumor mass could be seen filling the antrum and ethmoid. It was considered unwise to operate further and after convalescence he was again sent to the Huntington Memorial Hospital for radium treatment. This was continued at irregular intervals, radium being applied over the orbital and supra-orbital regions until August 13, when I first saw the patient. At that time the tumor mass almost filled the left nostril, involving the naso-antral wall and the lower turbinate. This mass bled freely on palpation. From this time up to April 11, 1918, patient had numerous radium treatments directly to the mass in the nose without any appreciable result. On the above date he was admitted to the Massachusetts General Hospital, where a radical operation (H. A. B.) on the left antrum, ethmoid and sphenoid was done. Pathological Report—"A number of soft, irregular, grayish-white pieces, microscopically examined, shows a tumor composed of small round cells which have considerable deeply staining cytoplasm. The nuclei also stain deeply and are eccentrically placed. Multinucleated cells and mitotic figures are sometimes seen. There are thin-walled blood vessels between thé cells with very little stroma. There is no evidence that this tumor arises from the bone marrow. It has the characteristic appearance of certain tumors which are found in the maxillary antrum. Sarcoma."

On May 6 and 22 he received radium treatment to the operative field. There was at this time no sign of recurrence. July 24, complained of soreness in left lower jaw opposite canine and bicuspid teeth. Examination showed a small tumor rising from the alveolar process. When removed by operation the tissues appeared to be inflammatory in nature, so an extensive dissection was not done. Pathological report, however, showed tumor tissue, and on August 7 a very thorough removal of all affected parts of the lower alveolus was done. The cavity was packed with plain ganze in the middle of which 13 9/10 millicuries of radium, screened with steel, was inserted. Radium remained for twenty-four hours. On December 1, 1918, I saw the patient for the first time since June 19. There was absolutely no evidence of recurrence in ethmoid, sphenoid or antrum. Mucosa perfectly smooth, with no granulation or crusting. June 1, 1920, well, with no recurrence.

Case 3. F. M. F. Male. Age, 42. Family History—Negative. Past History—Fifteen years ago had a wart on the right ala of the nose. Five years ago cut it when shaving. It was cauterized by the local M.D., and was afterwards removed. It was then treated by the x-ray, but the ulceration has at no time healed over. He came to the Huntington Hospital September, 1915. At that time he had an ulcerating area on his right ala 1.5 cm. in diameter. The ulceration was not deep and the mucosa of the nose was uninvolved. Diagnosis—Superficial rodent ulcer.

From the above date until June 12, 1918, when I first saw him, he had received radium treatment at appropriate intervals, in spite of which the ulceration had slowly advanced, had partially destroyed the right ala and had invaded the nasal mucosa. When I first saw him the outer wall of the nose was very extensively involved,—to what extent it was impossible to say on account of the tumor tissue

filling the naris. Radical operation was advised and was done June 24 (H. A. B.).

Operation—Moure incision over the right cheek and front wall of antrum removed. Antrum uninvolved except naso-antral wall, which was very extensively infiltrated in its lower half. Upper half was somewhat doubtful. The whole naso-antral wall was therefore removed, including all of the lower turbinate. The right ethmoid was extensively involved and was completely exenterated; sphenoidal cavity exposed but no disease found; septum apparently uninvolved except in the immediate vicinity of the old wound of the right ala. Obvious malignant tissue in this region curretted away. There was rather prompt recurrence of the external lesion which has since slowly extended, in spite of all treatment, into the alveolus, over the cheek and into the left nasal cavities. This patient is now (June, 1920) in the last stages of exhaustion.

CASE 4. M. H. Female. Age, 52. Came to the Huntington Hospital November 22, 1918. Her symptoms dated back to February, 1917, when she first noticed that she was unable to close her left eye on account of protrusion of the eyeball. The sight was not impaired at this time. Soon after, the cheek below the eye became swollen and numb. Not until September, 1917, was anything worthy of note done, when she consulted Dr. Fisher of Portland, who did a radical operation September 20 for malignant disease of the left antrum. There was some improvement for a short time; but the symptoms returned after about six weeks and have gradually increased in severity. On August 1, 1918, all her teeth were extracted, as the L.M.D. thought this might help her condition. About September 1 she was advised to go to the Huntington Hospital for radium treatment, but was unable to come at that time.

The family history and past history are of no importance. Physical Examination—Poorly nourished woman with prominent and protruding left eye, about the lower lid of which there appears a reddish inflamed and thickened conjunctiva. The entire eye is pushed outward and upward by a mass of new growth along the floor of the orbit. The lower lid is oedematous as well as the whole left side of the face. In the left neck below the angle of the jaw there is a flattened, hard, movable mass about 15 cm. in diameter. Left cheek red and oedematous and with scar of old operation. Nasal examination shows the left naso-antral wall bulging but not completely obstructing the naris. Left ethmoid region filled with tumor mass.

Operation—December 21, 1918, enucleation of left eye by Dr. C. Simmons. Radical operation on sinuses (H. A. B.). Moure incision through the old scar. Antrum and ethmoid regions filled with a dense tumor tissue. This was all exenterated, leaving the capsule of the orbit intact. The bony wall of the orbit, externally and inferiorly, was completely absorbed. Alveolus absorbed as far forward as the extreme anterior limit of the antrum. Soft tissues on the mouth side, however, were intact, and not carcinomatus. The skin over the cheek was infiltrated with tumor tissue. Most of this was removed, leaving a thin integument to cover the opening. A small "V" shaped piece of skin was removed in order to leave an opening through which direct radium treatment could be given. Cavity packed lightly with gauze, in the centre of which a radium tube of 41 9/10 millicuries screened with steel was placed. This radium tube was allowed to stay in place for six days, being removed and immediately replaced with each fresh dressing. Pathological diagnosis of tumor tissue removed, "Carcinoma."

In this case it was not felt that the outlook was at all hopeful, as the tumor tissue was so dense as to make its complete removal extremely problematic. Very prompt recurrence took place; and although subsequent radium treatments were given, they failed in any appreciable effect. Patient died of exhaustion August 7, 1918. Metastases in brain.

CASE 5. H.B. Female. Age, 36. Family history and past history unimportant. Present Illness—Entered Massachusetts General Hospital, November 14, 1916, on the service of Dr. C. M. Smith, for lesion of right upper jaw and palate which slowly advanced, in spite of all treatment, until the entire right palate was destroyed and the right superior maxillary region extensively involved. Examination at this time showed the right antrum filled with tumor mass which was thought to have absorbed the post-antral wall and to have invaded the ptorygoid region, as there was considerable limitation of movement of lower jaw. Right upper alveolar and palatal processes markedly infiltrated. There was much pain. Weight, 86½ pounds. Case was considered inoperable and was referred to the Huntington Hospital for radium treatment. Pathological diagnosis of specimen from soft palate: "Anastomosing columns of atypical epithelial cells in an abundant fibrous stoma. Carcinoma." Treatment—Radium treatment was begun January 2 and continued at varying intervals, usually bi-weekly, until May 23. These treatments appeared to retard the extension of the growth, cleaned up the ulcerative surfaces somewhat, and apparently diminished the pain. Weight, 78½ pounds.

Operation—On June 18, she was operated on at the Massachusetts General Hospital (H. A. B.) more for the relief of pain than with the idea of gaining a permanent result. Through a Moure incision the anterior antral wall was removed, the antral cavity emptied of tumor mass, the antro-nasal wall and most of the right alveolar process and hard palate removed. The right ethmoid and sphenoidal cavities were completely exenterated as they

were filled with tumor tissue. Neither the post-antral wall nor the antro-orbital plate was affected. The os planum and the nasal septum were intact. "V" shaped excision in integument of right cheek. No radium treatment was attempted at this time. The immediate object of the operation was gained, as the pain was entirely relieved. June 26: Radium, 89 mc. in centre of antral cavity, screened by 2 cm. of gauze. I did not see the patient again until January 12, 1919. During the interval she was seen by Dr. J. P. Clark. July 31, Dr. Clark reports; cavity looking clear and no signs of recurrence. Weight, 62 pounds. No pain except in the right lower jaw with nothing seen to account for it. From this time up to December 11, she was seen only once (September 4), when she received radium treatment. On December 11, Dr. Clark reports her entire left upper jaw involved. Weight, 92 pounds. I saw her on January 12, 1919, when the left side presented a replica of the original lesion on the right. There was no sign of recurrence in any part of the old operated field. Patient died of exhaustion January 20, 1919.

Case 6. W. W. Male. Age, 52. Past History—Six years ago had polypus in left side of nose. This was removed, but recurred one year later. He has had three operations for this condition since that time. Six months ago began to have severe nosebleeds from left side, and more or less obstruction to breathing. On March 1, 1918, he was operated on at the Eye and Ear Infirmary for malignant disease of the antrum. At this time the antrum was emptied of tumor tissue but nothing further was done on account of the very evident involvement of the ethmoid. On March 27, he was again operated on (H. A. B.) at the Huntington Hospital. The usual radical exenteration of antrum, ethmoid and sphenoid was done, with "V" shaped excision of the cheek. Patient died March 30 of streptococcus meningitis.

Case 7. H. E. Female. Age, 50. Past History, Family History—Negative. Present Illness—Duration, sixteen years. Growth removed from throat sixteen years ago. Was told at that time that there was a growth in the nose. Partial operation on this growth seven years ago and five years ago. Recently patient went to an oculist to see about her eyes and was advised to go to Huntington Hospital for treatment of the nasal condition. Physical Examination—Left nostril filled with fibrous growth. Considerable swelling of left side of face without redness, oedema or tenderness. Left eye shows moderate exophthalmus with partial optic atrophy. The tumor mass has apparently absorbed the septum and completely filled all parts of the right naris above the level of the lower turbinate. Wassermann, negative. X-ray shows frontals to be normal. Piece taken for biopsy shows the growth to be fibro-sarcoma. Operation (H. A. B.) March 10, 1919, Huntington Hospital. Curved incision beginning on the left nasal bridge and extending across left cheek over about the central point of the antrum. Soft tissues and periosteum retracted, exposing anterior wall of antrum which was removed. The antrum was found to be perfectly normal except for a very pronounced bulging inward of the naso-antral wall. The tumor mass was found to spring from the nasal side of this wall, from the ethmoid and from the front wall of the sphenoid. The septum, superiorly, had been absorbed by pressure of the tumor, which extended through the opening thus made and presented in the ethmoid region of the opposite side. As much of this tumor mass was exenterated as could be done with safety to the patient. In places, especially in the ethmoid and sphenoid region, the tumor was so tough as to make extreme caution necessary, as the possibility of absorption of the cribriform from pressure had to be borne in mind. I am certain that small parts of this tumor were left in the posterior ethmoid region. Convalescence was complicated by a severe diarrhea, and, as on abdominal examination a marked resistance was found in the upper right quadrant, the question of possible metastases was raised. April 3, she was sent to the Brigham Hospital for observation, but was discharged three days later at her own request, without any definite change in condition. This patient received only one radium treatment. July 11, the cavity was exposed for one hour to 46/5 mc. Since then she has reported at intervals for observation. October 22, 1919, there were no signs of recurrence and she was told to report again in four months. May 28, 1920. No signs of recurrence. Eyesight much improved, but still far from normal.

Case 8. W. D. Male. Age, 40. Came to Huntington Hospital January 8, 1919, for obstruction in left side of the nose. Family history and past history are negative. Present Illness—Two and a half months ago had hemorrhage from left side of nose and since then has been unable to breathe through left nostril. Has had about thirty hemorrhages from that side. Went to the Boston Dispensary and was referred to Huntington Hospital for treatment. Physical Examination—Atrophic condition in right side of the nose with much crusting and a good deal of ozena. In the left nostril is a mass springing from the naso-antral wall and completely filling nares. No signs of metastases. Clinical Diagnosis—Carcinoma of the nose. Operation—(H. A. B.) January 13, 1919, Huntington Hospital. Moure's incision through the cheek. Antrum found uninvolved. Naso-antral wall completely removed with large mass of tumor tissue on the nasal side. Ethmoid and sphenoid found to be involved and were completely exenterated. The anterior two-thirds of the os planum absorbed but the tissues in the orbit apparently not involved. Cavity packed

and upper incision only partially sutured with gauze drainage through incision. The usual "V" shaped excision of the cheek was not made in this case as it was hoped that partial closure might leave a sufficient opening for the subsequent observation of the operative field. It was found later, however, to be entirely inadequate for that purpose. Pathological Diagnosis—Carcinoma. Post-operative Treatment—On January 17, he received his first radium treatment. Three steel tubes, 56.5, 54.0, and 42.7 millicuries. Screening, ½ cm. gauze and steel tube. Location—(1) Sphenoidal sinus and posterior ethmoid region. (2) Anteriorly, in the region of the absorbed os planum. (3) In the lower meatus near anterior, inferior angle of the antrum. Duration one-half hour, when all the tubes were shifted so as to give exposure of equal time to other denuded surfaces. A like treatment was repeated January 20. It was found, however, that there was some reaction to the radiation in the septum from the first treatment, and in all subsequent treatments the septum was protected by 2 m.m. of lead. Position of tubes changed at the end of one-half hour so that practically all parts of the operative field received half-hour exposures. February 1, there was no indication of recurrence. February 19: A slightly suspicious nodule just underneath the opening of the sphenoidal cavity. Fifty-four millicuries, screened by steel tube and 3 m.m. of gauze inserted into the sphenoidal opening. Duration of exposure, one hour. March 5: The redundant tissue just under sphenoidal cavity was reduced in size but was still suspicious. A small piece was taken for microscopic examination. Radium treatment as on previous visit. Microscopic examination showed simple granulation tissue. Biweekly visits to the hospital for observation until July, when he was seen by Dr. Greene, who found no evidence of recurrence. The operative cavity clean and with moderate crusting. October 1: Patient first complained of marked tenderness over inner end of scar. He has been seen monthly since that time. This tenderness still persists. There is no evidence, however, of any recurrence. May 27, 1920: Patient is well and shows no recurrence, nor metastases.

Book Reviews.

Functional Nerve Disease. Edited by H. CRICHTON MILLER, M.A., M.D. London: Henry Frowde, Hodder and Stoughton, Ltd. 1920.

Among the lessons taught by the Great War is the recognition by physicians of the fact that the vast majority of nerve disorders, at first wrongly and popularly considered due to the so-called "shell shock," have their mental and physical counterparts in civilian life. Functional disorders which formerly were not considered adequately in the training of medical students and which were either ignored or treated unintelligently by the majority of practitioners, now are understood more thoroughly. It is the purpose of this volume, *Functional Nerve Disease,* to present to the profession the knowledge on this subject acquired by medical officers in war service. The book is made up of chapters written by various medical officers whose experience in treating war neuroses has enabled them to add valuable contributions to the literature on this subject. Although it is inevitable that, in view of the recent growth of psychopathology, divergencies in opinions, repetitions, and even apparent contradictions appear in such a method of independent presentation, it gives perhaps a truer and more helpful picture of the present state of knowledge than might be achieved by a single author. In a summary by William McDougall, M.D., D.Sc., F.R.S., an attempt has been made to remedy in part the drawbacks of this method by bringing to a focus and harmonizing as far as possible the substance of the several chapters. This book will enable physicians to appreciate more intelligently the relative values of rest, electricity and massage, suggestion, psycho-analysis, discipline, and sympathy in adapting their methods to the individual needs of civilian patients.

Sir Victor Horsley: A Study of His Life and Work. By STEPHEN PAGET. London: Constable & Co. 1919.

Victor Horsley's death in September, 1916, came as a shock to the medical world, for he was by far the most distinguished man of our profession to die a soldier's death at the front. None of the Allies except Great Britain made such a sacrifice. During those busy times of 1916-17 when we were preparing to enter the war, his death passed very largely unnoticed in this country. It is only lately that his greatness has been recognized and honored. The publication of his biography by Mr. Stephen Paget has been an impetus to review his life.

His surgical career began early; by the age of thirty he had created a new department, the surgery of the central nervous system. Ten years of ardent physiological experimentation under Schäfer had led to his appointment as surgeon to the National Hospital for Paralyzed and Epileptic, Queen Square, in 1886. The third decade of his life was filled with three series of investigations, two of minor importance and one of major. He first worked on the cure of myxedema. A small laboratory at the Brown Institution was relegated to him and in it, single handed, he experimented on the physiology of the thyroid gland and the possibilities of surgical removal. Later he in-

vestigated at the same laboratory the prevention of rabies, the direct result of which were the enforcement of the Muzzling Order and a remarkable drop in the rate of hydrophobia. These two studies, however, were of minor importance compared with his work with Schäfer, Beevor and Semon on the localization of function in the brain. Localization had its beginning in 1861 when Broca showed the lesion in the third left frontal convolution in a case of motor aphasia. The next step came in 1870. Fritsch and Hitzig noted the motor cortex by a chanced observation on a wounded soldier in the Franco-Prussian War. Later in the same year they did experimental work on dogs which partly confirmed their observations on the motor centers. Ferrier then outlined the motor area by the use of the faradic current in 1873-75. Lastly Schäfer began, in 1884, a series of experiments on monkeys with Victor Horsley, fresh from his surgical training, as his first assistant. They mapped out the cortical areas with exquisite precision, using the galvanic current, and later Horsley continued the same type of fundamental research with Beevor and Semon. It was pioneer work and to Horsley should go much of the credit. Most of his researches have stood the test of time; a few needed modification by Sherrington.

In 1886, when he was only twenty-nine, Horsley turned his attention to surgery. He never lost his interest in the laboratory, however, and we find that, all his life, he continually returned to his experimental work to check up his clinical experiences. He found Queen Square in the same stage as in Paré's time, a period of skull surgery; within a year he had created the new field of brain surgery. As Paget says: "We can count on our fingers the cases of modern brain surgery recorded in our surgical literature up to the time of Horsley's appointment to Queen Square." His first operation was on May 25, 1886, a post-traumatic Jacksonian epilepsy. Hughlings Jackson and Ferrier were present; the operation was successful, and the fits ceased. On June 9, 1887, he removed a tumor from the spinal cord, the first operation of its kind ever performed. A new era of surgery was definitely established. As Osler says: "The young physiologist, trained in surgery by operating upon monkeys, had done what the leading authority on diseases and injuries of the spinal cord had declared only a few years before to be 'not within the range of practical surgery.' It was a great triumph, and deservedly brought fame and success."

In 1906 Horsley gave the Address in Surgery at Toronto before the British Medical Association. In it he reviewed his twenty years of brain surgery and laid special emphasis on the value of the palliative procedure of decompression to save blindness after optic neuritis. He also enunciated for the first time the general principles of brain surgery, fundamentals which are still the basis of this special type of surgery today.

All his life he was a leader in a radical temperance movement. His views culminated in a book, with Dr. Mary Sturge, on Alcohol and the Human Body (1907). His extreme position carried him into many controversies and led to a most unsuccessful life in professional politics. This chapter is the tragedy of Horsley's life. It was a blight on his otherwise splendid career and served only to alienate his friends. The war came in 1914 as a distinct relief to this unfortunate situation. He volunteered for active service at once and did most admirable surgical work at Wimereaux in France and later as a consultant in Egypt and Mesopotamia. His letters from Mesopotamia, filled with little pen sketches, are particularly delightful reading and all that was best in Victor Horsley can be read in their pages. Death, from heatstroke, found him working at Amarah, at the apex of his endeavors as a devoted servant to his country.

Mr. Stephen Paget has written a most able biography. It was a difficult task, made doubly so by the widely separate views of the two men. No attempt has been made to suppress or soften and in reading it one obtains a clear view of the scientific and social side of Victor Horsley's life. Much of it is unpleasant reading, but it is comparatively easy for the reader to separate the wheat from the chaff of Horsley's work. Horsley the physiologist and brain surgeon is an unforgettable figure in medicine, the outstanding British surgeon of his generation, and Paget's sympathetic portrayal of this aspect of his life is an exceptional piece of medical biography.

The Topographical Anatomy of the Limbs of the Horse. By Charnock Bradley, M.D., D.Sc., M.R.C.V.S. New York: William Wood and Company. 1920.

The Topographical Anatomy of the Limbs of the Horse offers an admirable consideration of the subject with which it deals. The text is presented clearly and logically, with careful explanation of dissecting methods and detailed description of bones, joints, muscles, nerves, arteries, veins, tendons and ligaments. For the convenience of dissectors the various parts of the body are presented in the following order: the thoracic limb, the hoof and its contents, the arteries of the thoracic limb, the pelvic limb, the arteries of the pelvic limb, and the nerve and blood supply of the muscles of the pelvic limb. In spite of the fact that labor difficulties have made it impossible to secure in every instance the scale reductions indicated on the original drawings, the excellent drawings of the various dissections, executed with anatomical appreciation and artistic skill, merit particular commendation.

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THE SIGNIFICANCE OF DEPOPULATION AND PUBLIC HEALTH CONDITIONS IN FRANCE.

THERE is perhaps no clearer or more appalling example of threatened race suicide in history than the doom which is sealed for France unless her citizens make an immediate and national response to the appeal of her more far-sighted statesmen and physicians. In the absorbing interest of the world's political events, have not the leaders of France as well as the masses of the people ignored a more important issue, and given inadequate consideration to the most vital and menacing problems which confront France today—the questions of depopulation and impaired public health? No nation can long survive which refuses to have children; no nation can flourish which in the pursuit of foreign policies loses sight of the importance of the ordinary laws of sanitation which determine the physique of her manhood. That France is at last beginning to appreciate the mortal peril which threatens her is indicated by the fact that statistics based on the last census have been mapped out and called to the attention of the public.

Excluding the losses in population during the war and also the mortal statistics in the invaded region, statistics show that in the remaining provinces there is not one with more births than deaths, and that there are eleven provinces where the deaths are about three times the number of births. In continental France, in only four provinces, are recorded deaths less than one hundred and fifty per cent. of the births; in other provinces the rate of deaths based on every one hundred births reaches from one hundred and fifty to two hundred and fifty per cent.

Nor is the question of population the only serious issue which France must squarely face. In some towns ordinary sanitary laws such as vaccination, registration of diseases, and the rules regulating water supply and pertaining to transferable maladies are flagrantly ignored. France loses three hundred persons daily from tuberculosis alone. Each year among infants under one year of age there are ninety thousand deaths, forty thousand of which are probably preventable. The physique of the average youth of high school age is a matter of concern to examining physicians; reports show that one-fourth of the students have curvature of the spine and that the majority of them are lighter in weight, shorter in stature, and physically weaker generally than the class before the war. Compulsory physical exercises and fewer hours of intellectual application would help to increase the vigor of the youth of France. The French medical profession is advocating strongly that public health be put under the strict surveillance of the State, rather than left to the energy and initiative of local town authorities. It is obvious that measures of some sort must be adopted at once, as France faces a life and death issue in the matters of depopulation and public health.

"ETHER DAY" AT THE MASSACHUSETTS GENERAL HOSPITAL.

"ETHER DAY" was celebrated at the Massachusetts General Hospital on October 18, in commemoration of the first use of anaesthetics there seventy-one years ago, when Dr. John C. Warren performed an operation and Dr. Wil-

liam Morton administered ether. Dr. Henry P. Walcott presided at the meeting and paid tribute to the memory of Dr. Morton. In the morning, papers were read and demonstrations were given. In the afternoon, Professor Alonzo Taylor of the University of Pennsylvania delivered an address, "Effects of the War on World Movements in Nutrition," which will be published in a later issue of the JOURNAL. Other subjects presented were: "Syphilis of the Aorta," by Dr. W. D. Smith; "The Practical Value of Dried Cows' Milk Preparation in Infant Feeding," by Dr. W. R. Sisson; "Value of Puncture of the Cisterna Magna in Diagnosis and Treatment," by Dr. J. B. Ayer; "Remarks on Roentgen Therapy," by Dr. G. W. Holmes; "Pneumoperitoneum as an Aid to Abdominal Diagnosis," by Dr. W. Mason; and "Serum Treatment of Pneumonia," by Dr. F. T. Lord. Of particular interest was the room on the fourth floor of the old hospital building, where the operating room has been restored to appear as it did in 1846, when Dr. Warren performed the first operation with ether. The "ether statue," which was erected in memory of Dr. Warren some years ago in the Public Garden, was visited by many physicians.

In observing the seventy-first anniversary of the first operation performed with ether, the physicians and staff of the Massachusetts General Hospital honored an important date in the history of surgical practice—a date which marks the dividing line between the pain and misery of the past and the present epoch of hope and relief from suffering.

MEDICAL NOTES.

THE EYE, EAR, NOSE AND THROAT HOSPITAL AT NEW ORLEANS, LOUISIANA.—We have received recently the twenty-ninth and thirtieth annual reports of the Eye, Ear, Nose and Throat Hospital at New Orleans, Louisana, for the years 1918 and 1919. This hospital is designed especially for the treatment of persons who are unable to pay for medical advice, and all others are excluded from the hospital by order of the Board of Trustees. There can be no greater evidence of the skill and care of the hospital surgeons than the fact that although over a thousand operations were performed during the year, there was not one fatality in 1918. There were treated during 1918, a total number of 7,908 new cases; of these there were 3,344 eye cases, 4,540 ear, nose, and throat cases, and 24 dermatological cases. The consultations given the patients numbered 39,960, and 1,776 operations were performed; 743 patients were admitted to the wards, with no deaths. In 1918, 156 men from the Army and Navy were given treatment at the hospital. Visits were made to the School for the Blind and that for the Deaf at Baton Rouge, where the pupils were examined and treatment prescribed or operations performed according to individual case requirements.

During the year 1919, the number of new cases receiving treatment at the Eye, Ear, Nose, and Throat Hospital increased to 8,151, to whom 38,657 consultations were given. A total of 2,582 operations were performed, and 996 patients were admitted to the hospital wards. Enlisted men to the number of 342 were given treatment, and another war service was performed by the Unit established at the hospital for the examination of candidates for the flying corps. The usual visits to the School for the Deaf and the School for the Blind, at Baton Rouge, were made. The free distribution of diphtheria antitoxin was continued during both 1918 and 1919. The increased service which the hospital has been called upon to render has made it necessary to make plans for the erection of a new building in order that the work of the hospital may be carried on efficiently in the future.

PRINCIPAL CAUSES OF DEATH IN THE UNITED STATES.—The following statistics based on the mortality records of the industrial department of the Metropolitan Life Insurance Company for the first half of the year 1920 are of considerable interest, although it should be remembered that they apply to a selected group and cannot be compared with rates for the country as a whole. The figures are based on a group of approximately thirteen million persons.

In the first half of 1920 there was a decline of 10.4 per cent. in the death rate for the white policyholders from that shown for the first half of the year 1919, and of 5.7 per cent. for the colored. During the first quarter of each of these years there was a high mortality from epidemic influenza. During the first few months of 1919 the country was by no means through with the epidemic which began in the fall of 1918, and the mortality was still far above the normal. During the first quarter of 1920 the

second influenza epidemic was at its height and there was again a high death toll, but the death rate for this quarter was lower than that for the corresponding quarter of 1919.

Comparison of the second quarter of 1920 with that of the corresponding quarter of 1919 shows a decline in the mortality rate.

Analysis of the mortality due to the most important causes of death shows that the chief factors in the decline of the general rate were the marked declines in the death rates for tuberculosis, pneumonia, influenza, and accidents.

Despite the decline in the general rate and in the rates for the important diseases mentioned above, the picture is not an entirely favorable one. In the case of the principal infectious diseases of children—measles, scarlet fever, whooping cough, and diphtheria—the mortality was higher in each instance during the first part of 1920 than it was during the first part of 1919. For measles the mortality was almost three times as high, and for whooping cough it was well over twice as high. The scarlet fever and diphtheria rates also show increases.

The rate for conditions incidental to the puerperal state shows a very decided increase for the first half of 1920 over that for the corresponding part of 1919. For the former period the rate for the white policyholders for these diseases increased 36.6 per cent. over the rate for the first half of 1918. Closer analysis shows that increased mortality from puerperal septicemia was very largely responsible for the higher death rate for puerperal conditions.

Epidemic influenza, which raged in January and February, 1920, caused 6,536 deaths. These figures may be compared with 11,073 deaths from this disease during the first six months of 1919. There was a more pronounced drop in the death rate for 1920 for both white and colored policyholders.

Although influenza registered a very marked decline in the second quarter of 1920 as compared with the first quarter, it was, nevertheless, responsible for the deaths of 1,139 policyholders. The rate for this disease during the second quarter was 29.4 per 100,000 white persons exposed, and 71.0 for colored.

NURSES NEEDED BY THE PUBLIC HEALTH SERVICE.—The U. S. Public Health Service needs hundreds of graduate nurses for its general hospital work but also and particularly for the care of former soldiers suffering from nervous and mental disorders. So great is its need for the latter class that it is probable that at present enough trained nurses are not available in the country. The Public Health Service accordingly purposes to establish a training school for nursing in neuro-psychiatric diseases in its special hospital (No. 49) on Grays Ferry Road, near Philadelphia, where nurses with general training may take a special course in this class of work. This hospital has a capacity of 240 patients and will afford exceptional opportunities for instruction in the most modern treatment.

An appeal is made to nurses to come forward for this work; for if they do not do so there seems to be no one to take their place. The hospitals now operated by the U. S. Public Health Service are already 150 nurses short; and the Service faces the necessity of opening several new ones with an inadequate force. Applications should be made to the Surgeon-General, U. S. Public Health Service, Washington, D. C.

PUBLIC HEALTH SERVICE LEASES ALTAMONT HOTEL.—The U. S. Public Health Service has leased the Altamont and Avenel hotels, adjoining Fort Thomas, near Newport, Ky., across the river from Cincinnati. The Altamont is to be used as a general hospital for the seventh district of the Public Health Service, which comprises the states of Ohio, Indiana, and Kentucky. The Avenel, which is ten minutes walk from the Altamont, will serve as quarters for the hospital staff.

The Altamont is beautifully located on a bluff overlooking the river. It is in good condition and can be occupied at once for non-operative cases, as certain necessary improvements in the kitchen can be made while the building is in use. The same is true of the operating room that is to be built.

An important feature of the hospital will be its bathing facilities. For some years mineral waters from springs in the vicinity have been utilized, with or without electricity in baths for the hotel. Their therapeutic value has long been recognized.

The hospital will have about 200 beds.

BOSTON AND MASSACHUSETTS.

Week's Death Rate in Boston.—During the week ending November 20, 1920, the number of deaths reported was 192 against 193 last year, with a rate of 13.38 against 12.64 last year. There were 30 deaths under one year of age against 25 last year.

The number of cases of principal reportable diseases were: Diphtheria, 53; scarlet fever, 18; measles, 10; whooping cough, 19; typhoid fever, 2; tuberculosis, 33.

Included in the above were the following cases of non-residents: Diphtheria, 8; scarlet fever, 5; measles, 1; tuberculosis, 6.

Total deaths from these diseases were: Diphtheria, 4; scarlet fever, 1; typhoid fever, 1; tuberculosis, 9.

Included in the above were the following cases of non-residents: Diphtheria, 2; tuberculosis, 1.

Anterior poliomyelitis cases, 2.

Thurber Medical Association.—At a meeting of the Thurber Medical Association held on October 22, the following officers were elected: Dr. Solon Abbott of Franklin, president; Dr. Sallie H. Saunders of Hopedale, vice-president; Dr. John M. French of Milford, secretary; Dr. William L. Johnson of Uxbridge, treasurer; Dr. H. L. Keith of Milford, librarian; Dr. John H. Wyman of Medway, orator for 1921; Dr. Frank T. Harvey of Milford, alternate; Dr. J. William Ledbury of Uxbridge, Dr. Saunders, Dr. C. C. Weymouth and Dr. Wyman of Medway, Dr. C. H. Randall of Franklin, and Dr. J. F. Jenckes of Wrentham, program committee.

Gifts for Medical Research at Harvard University.—By the will of the late Mrs. William J. Wright, Harvard University will receive the sum of $23,000, to be known as the "William J. and Georgiana B. Wright Fund," the income to be used for medical research and the advancement of the medical and surgical sciences. The late Dr. James Ewing Mears of Philadelphia has made a bequest of $14,000 for the maintenance of a scholarship in medicine and for the work of the Cancer Commission. Elwin T. Atkins of Boston has given $12,000 for tropical research in economic botany.

Charlestown Medical Society.—At a recent meeting of the Charlestown Medical Society, the following officers were elected: Dr. Edward E. Allen, president; Dr. Wilfred G. Grandison, vice-president; Dr. John G. Breslin, secretary; Dr. William L. Quigley, treasurer; Dr. John J. Fitzpatrick, Dr. Francis P. Silva, Dr. Joseph E. McDermott and Dr. Howard Flagg, executive committee.

NEW ENGLAND NOTES.

Appointment of Dr. Philip Hadley.—Dr. Philip Hadley has been appointed to the faculty of the Department of Bacteriology and Hygiene, School of Medicine, University of Michigan. Dr. Hadley was formerly professor of bacteriology at the Rhode Island State College and biologist at the Agricultural Experiment Station.

War Relief Funds.—The New England branch of the French Orphanage Fund has acknowledged contributions to the amount of $621,994.43. The sum of $366,509.44 has been contributed to the American Memorial Hospital at Rheims. The following report of the temporary hospital at Rheims for the year from June 1, 1919, to June 1, 1920, shows how urgently its work is needed:

Number of admissions June 1, 1919 to June 1, 1920	922
Number of discharges June 1, 1919, to June 1, 1920	886
Number of transfers, June 1, 1919, to June 1, 1920	19
Number of deaths, June 1, 1919, to June 1, 1920	20
Number of births, June 1, 1919, to June 1, 1920	225
Medical Surgical Clinics:	
Number of cases treated	12,920
Maternity Clinic:	
Number of patients examined	334
Dental Clinic:	
Number of operations	5,152

New England Surgical Society.—The annual meeting of the New England Surgical Society was held in Providence, Rhode Island, on October 6 and 7, with a large attendance. The papers, discussions, and proceedings of this meeting will be published in full in later issues of the Journal. The following resolution was passed on motion of Dr. Daniel F. Jones:

"Resolved, that the New England Surgical Society, realizing the scarcity of nurses for the care of the sick in hospitals and in private practice, believes that the situation could be improved by a modification of the requirements for the registration of nurses."

In conjunction with the meeting, clinics were held at a number of local hospitals.

Obituary.

EDWIN LEWIS DROWNE, M.D.

BY EDWARD WALDO EMERSON, M.D., CONCORD, MASS.

DR. EDWIN LEWIS DROWNE, good and faithful man, skilful and advancing physician and surgeon, died in Roxbury on the twenty-fourth of October. He was born in East Boston in 1877, and studied his profession at the Harvard Medical School. His earlier education came in that remarkable epoch when Lister's application of Pasteur's wonderful discoveries to surgery was giving results that seemed almost miraculous. Then, for the first time the abdomen could be safely opened, and lives were daily saved by the operation for appendicitis. Operative surgery was Dr. Drowne's *forte* at first, and soon after his term of service at the Boston City Hospital had expired, he was appointed leading surgeon of the Relief Hospital in Haymarket Square. Such being the case, Dr. Drowne's future history was interesting. He had a student's curiosity, an open mind, and courage to venture into and explore new ground. Appendicitis operations seemed almost in fashion; but the diagnosis sometimes was mistaken, often they were done too late; withal, they were very expensive, yet intestinal stasis came alike to poor and rich.

About this time (1900), Dr. Drowne moved to Concord, where he became a highly valued and successful general practitioner. But, skilful operator as he was, he less and less used the knife, and treated intestinal stasis, unless the case had gone too far, by skilful manipulation, deeper and stronger than *massage*. By this means the obstruction was broken up and poisonous gases released. He was surprised to find how many various and obscure ailments were completely relieved by this method. He would not talk in public before he was sure of the facts. Then he urged them, as opportunity offered, at meetings of medical and surgical societies, where, at first, they sometimes met a very cold reception from persons who, later, were glad to learn from him more of his methods. He has erroneously been supposed to look upon the intestine as the base of all ills. He knew it was one of the three main foci of infective toxemia, the other two being the tonsils and the teeth; but he chose the treatment of intestinal stasis as his contribution toward the preventive medicine of the future. So important did he feel this subject to be that, to the great regret of the Concord people, Dr. Drowne, in 1915, moved to Boston for a wider field of study and usefulness. His mind was ever intent to find and prove possible help for persons suffering from causes anatomical or physiological until lately unsuspected, like pressure on certain small glands whose important offices are only lately discovered.

Into what Dr. Holmes would have called "the pseudo-science" of osteopathy, Dr. Drowne looked respectfully and carefully with a view of separating the wheat from the chaff, in the same spirit that William James did into alleged spiritual communications.

But in his last years, the Doctor had an earnest desire to solve the mystery of some distressing chronic diseases which have been deemed hopeless. He studied epilepsy, and, in some cases in children, had seemed, to their parents, remarkably to have improved their condition, although he himself was very careful and modest in his estimate of these successes. However, with the encouragement and furtherance of friends, he set forth to visit scientific physicians in various parts of the United States to compare notes and, if possible, to find new and cheering light on old and grievous problems.

On this western journey, Dr. Drowne had warning symptoms that his life might not be long. He came home, but still was active in the help of others, and in spite of such rest as he felt willing to take, his strength waned in the early autumn. Still he attended to patients faithfully and beyond his strength. In the latter weeks his pain was great, but always bravely borne. Only in the last days was his suffering relieved. He died in the Baptist Hospital in Roxbury on Sunday, October 24.

Dr. Holmes' "Tribute to a Physician" may well be quoted here:

"How blest is he who knows no meaner strife
Than Art's long battle with the foes of life!
No doubt assails him doing still his best
And trusting kindly Nature for the rest.
Sharp are the trials, stern the daily tasks
That suffering Nature from her servant asks.
What does his saddening, restless slavery buy?
What save a right to live, a chance to die?
Answer from hoary eld, majestic shades,—
From Memphian course, from Delphic colonnades.
And ye, the nearer sires, to whom we owe
The better share of all the best we know,
Speak from the past, and say what prize was sent
To crown the toiling years so freely spent!
List while they speak:
In Life's uneven road
Our willing hands have eased our brother's load;

One forehead smoothed, one pang of torture less,
One peaceful hour a sufferer's couch to bless,
Life's treasure rescued like a burning brand
Snatched from the dread destroyer's wasteful hand;
Such were our simple records day by day,
For gains like these we wore our lives away.
In toilsome paths our daily bread we sought,
But bread from Heaven attending angels brought;
Pain was our teacher, speaking to the heart,
Mother of pity, nurse of pitying art;
Our lesson learned, we reached the peaceful shore
Where the pale sufferer asks our aid no more,—
These gracious words our welcome, our reward;
Ye served your brothers; ye have served your Lord!"

Correspondence.

MATERNITY AID.

Boston, Nov. 15, 1920.

Mr. Editor:—

One of the reasons which prompted a previous communication was to develop discussion of the maternity aid project.

Dr. Miller's communication is gratifying in that he has presented certain views relating to this subject. The President of the Society reported to the Council that only about seven hundred of the four thousand members of the Society replied to the questionnaire of the Commission of which he is the chairman. Whether the phraseology of my letter was apt or not, may be debatable. To some it seems to apply to the attitude of the great majority of the Society, but no one would, in my opinion, infer that a man of Dr. Miller's reputation was referred to. The words "loyalty and intelligence" applied to the subject presented and not to the attainments of individuals. The effort of the local medical society and its delegates, referred to by Dr. Miller, was evidence of effective interest.

Dr. Miller and I are in accord in that we do not approve the Spencer Bill. Is it not possible that starting on that basis some plan may be developed which may secure the support of the profession?

There seems to be evidence that the Legislature will be inclined to enact some law relating to this subject. If the Legislature declines to act, the threat has been made that an effort will be made through the initiative and referendum. Is it not the better policy to come forward with some constructive recommendation rather than appear to be antagonistic to every feature of the proposed legislation?

It must be conceded that the proponents of the bills previously presented were actuated by honorable motives, but since the administration of any method of maternity benefit should be to a large extent a medical problem, the profession should, in my opinion, be the largest factor in deciding the character of law relating to this subject.

The suggestion of Dr. Miller that "the control of the entire medical profession by the State Board of Health will be intolerable," does not seem to me to apply, because the State Department of Health has always been coöperative when dealing with physicians, and seldom arbitrary. Some board or commission must function if any law is adopted. Nobody contends that the practice of obstetrics is universally bad but it is perfectly well known that there are many men in Massachusetts who are not competent, according to the best medical standards, because the Legislature has not required applicants for registration to have premedical intellectual training before taking up the practice of medicine. The state has virtually said that all we want of physicians is mediocrity, and until the Board of Registration in Medicine is given sufficient authority, all available agencies should be interested in efforts to improve medical efficiency.

In order to secure the best results in dealing with parturient women, and with infants, for the purpose of providing good medical service and material aid, a general scheme should be worked out which will also give all useful information relating to the morbidity of pregnancy and infancy.

The application of preventive medicine must be based on knowledge which would be available under the scheme suggested in a former communication.

Walter P. Bowers.

A TRIBUTE TO DR. DROWNE.

November 12, 1920.

Mr. Editor:—

Every so often, one of our associates in medicine conceives an idea on which he elaborates and works until he makes it of benefit to mankind.

Such a man was Edwin Lewis Drowne.

Born May 18, 1878, after his elementary education, he entered Brown University, but left there before graduation to come to the Harvard Medical School, from which he was graduated with the class of 1904. He then became a surgical house officer at the Boston City Hospital and after finishing this service he was resident surgeon at the Relief Station for three years. In 1909 he married Miss Agnes Marks of Boston, Mass.

During the year 1910 he was invited to go to Concord by a group of citizens, headed by Dr. Edward W. Emerson. This invitation he accepted, and for five years was a very successful and happy general practitioner. During the last year or two of that period he became interested in intestinal stasis and developed an exceptional ability in manipulating the intestines through the abdominal wall. The story of his success in treating patients in his self-perfected manner spread and he finally found his time mostly, and his interest entirely occupied with stasis cases. When this became evident to him, he got another doctor to take the general practise and moved back to Boston.

For the past five years he grew in experience, skill and fame. He knew what he could do with many cases, but he purposely kept to himself, for he felt that many of his fellows did not understand what he was working at. Nevertheless, patients came from far and near and in the last two years he was made happy by having cases referred to him by men who originally criticized his work. Certain cases of epilepsy were made better by his treatment and this stimulated his interest in that disease. He gave up his practice for five months during the winter of 1919 for the study of epilepsy, and visited men in various localities in the United States who has specialized in it.

We shall never know just what he discovered, for the summer of this year found him in failing health and increasing pain. This he kept to himself so closely that it was a sad surprise to his friends when they heard of his illness and death from cardiac insufficiency.

We feel that we have lost a friend, that Boston has lost an able doctor, and that the profession has lost an original thinker and investigator.

Respectfully yours,
Hilbert F. Day,
J. Dellinger Barney,
John Dane.

PHYSICIANS AND MEDICAL LEGISLATION.

Boston, 8 November, 1920.

Mr. Editor:—

At a recent meeting of the Middlesex South Medical Society, Dr. Alfred Worcester took occasion to

speak to the assembled members in the capacity of President of the Massachusetts Medical Society about the carelessness of the members of that Society regarding their professional interests as affected by proposed legislation. The particular reason for his speaking on this subject at that time was the very meagre response which he had received to a questionnaire sent out by a special commission of which he, as president of the Massachusetts Medical Society, had been appointed by the Governor to head. The object of the commission's questionnaire was to ascertain the opinions of the profession of the state regarding the merits of the proposed maternity bill. So small a percentage of the men to whom the letter was sent paid any attention to it that Dr. Worcester very naturally felt that the profession was indifferent to a subject that is likely to affect them very seriously. It also would certainly injure their chances of having any influence upon legislative matters in the future, where their interests were at stake, if they could not present a united front now and show that they were really alive to the significance of the question at issue.

There was a time when the profession was looked up to and the opinions of professional men, individually and collectively, were held in high esteem. This attitude is rapidly changing and the reasons are twofold. The profession of course no longer holds any monopoly of the educational advantages of the people and, though this is doubtless the chief reason, it is by no means the only one. Another reason, and one carrying great weight, is the apathy of these bodies of men to questions of the day which, while perhaps of a quasi-professional concern, are still of a much more paramount professional interest than they are given credit for being by the profession.

Where there are two classes of citizens having interests in common and one class shows itself unconcerned in the public questions at issue, there can be but one outcome and that is, that the party with a wide awake makeup is certain to dominate the field, and it will inevitably have developed machinery by which it will be enabled to keep any situations which may arise, well in hand.

The ease with which political exigency may seize upon some proposed movement for the amelioration of the condition of the unfortunate or the less fortunate is well illustrated by the situation in Great Britain today as regards the Medical Practice Acts. The present Act was put in force without any adequate consideration of the questions involved, because it was seen that it was capable of being turned to political account on the "hustings" by the unpreparedness of those whose interests were most vitally to be affected and who were left in a position where they could make no effective resistance to the passage of the legislation. The result has been that the medical profession in England is being rapidly socialized and by far the least serious consequence which will grow out of this legislation will be the deprivation of the activity of the members of the medical profession from making as good a living as formerly. The dignity of the profession has been lowered and it will offer less attraction on this account to the type of men who formerly flocked into it. Because of this, the public is bound to suffer and the advancement of the science of medicine will receive a setback.

It is from failing to be alive to the issues of the day where the interests of the medical profession are primarily at stake, thus leaving a loophole where political opportunism may step in, that one method of negativing the influence of the profession has its origin.

From a little different angle, but still through the playing of politics, it is that another sort of injury may be done to the interests that the medical profession champions. Practical politics is not a game that doctors succeed very well in playing, and many a cause that deserves to win goes down to defeat because of this failure on the part of physicians.

To prove this it is only necessary to refer to experiences which are common enough to those who are called upon from time to time to appear before legislative committees in the interest of proposed public health enactments. Take, for example, the effort made last winter before the House Committee on Public Health to secure the enactment of legislation which would put Massachusetts in the same class as a majority of the states of the Union in the matter of the requirements for medical education. Our standards have always been lower than those of most any other state, and because the state does not require of the matriculants in her medical schools the standard preliminary educational requirements, graduates in medicine from our medical schools may not have the advantage coming from reciprocity with other states when they may wish to go elsewhere to practice. No state in the Union has reciprocity with Massachusetts because our legally imposed preliminary requirements are so low. At a hearing, where it was sought to show the necessity for remedying this defect in our state, "leave to withdraw" was given the petitioners because of the unwillingness of the osteopaths and two medical schools with notoriously low standards to secure the proposed requirements. Time enough for these schools to affect the necessary changes was to be provided, but they preferred to cater to the elements in the schools who were willing to play upon the credulity of the public and encourage it to entrust to an inadequately trained profession matters of such grave significance as the lives and health of the people of the commonwealth. The opposition was represented by the dean of one of these schools and a lawyer who was not only unscrupulous, but unsound mentally, as his subsequent history has proved. The dean of the school, who was spokesman for the opposition of the osteopaths, admitted that they had no interest in having the sciences fundamental to medicine taught their students, and did teach and would teach only so much as was necessary to enable them to come within the law. It was their belief, he said, that all that was really necessary for a graduate from that school to know would be encompassed by a familiarity with the principles peculiar to osteopathy. Anatomy, physiology, chemistry, pharmacology, not to mention biology and physics, were not essential to equip a man to deal with the problems which the practice of osteopathic medicine assumes that you should be prepared to meet. The osteopath seeks to practice what the state recognizes as a branch of medicine and in this state is licensed to practice by the Board of Registration in Medicine. A further illustration of the need for concerted action which shall be based upon the knowledge of what concerns public health may be cited. This illustrates how an executive officer may permit a matter which is of purely personal concern to come between him and the exercise of his best judgment upon a matter affecting so serious a concern as the health of the public. The state seeks to guard her citizens from being preyed upon by incompetents and charlatans. To do this she sets certain general educational and professional standards, up to which they must measure. As interpreters of these standards and as examiners of those aspiring to practice their profession in the state, the Governor is empowered by law to appoint Boards of Registration and fill vacancies as they may occur there. There are, throughout the state, in all the professions, local organizations or societies gotten together by the best men in the several districts for the purpose of meeting and discussing professional matters for their own mutual benefit. These societies are state, county, or district organizations. It has become the custom for the state society of one profession to furnish the Governor's office with a list of about a dozen names of men who, in their opinion, would fill most acceptably positions upon the Board of

Registration. There would seem to be no good ground for doubting they would come at least as near being able to select the best men in the profession as any one else. The list has always been non-partisan, both parties being equally well represented. A recent Governor, who had ambitions to be returned to Congress at the expiration of his gubernatorial term, having to fill a vacancy in this board, selected a wholly undesirable man and appointed him without taking advice from any of those who were best able to appreciate the requirements of service on a Registration Board. A committee of remonstrance waited upon him and, after offering a number of excuses as reasons for his action, he had the effrontery to produce from his files a letter, signed by a fraternal order in that part of the state where his appointee lived, thanking him "on behalf of 16,000 members of that order for having made that appointment."

Who can doubt that such action on the part of an executive would have been impossible if the profession concerned had been on record through their activities, as having a far-reaching influence among the voters of the state where their professional interests were at stake?

The public is not slow to let its opinions be known through channels that are appropriate, when it is made to see what the real issues are and wherein these issues affect it. It is beginning at the wrong end and is a waste of time to attempt to convince a legislature of the importance of any enactment pertaining to a professional matter. The court of appeals should be the profession and the influential lay public in the home districts of the individual legislators. When the pressure is brought at a point remote from the source of the electing constituency, where it is possible to subject the proposed legislation to the manipulations of adroit political "log rollers," the chances of sound action on questions of professional importance are seriously imperilled.

It is for these, as well as other reasons, that the appeal of the President of the Massachusetts Medical Society, when he issues a call for advice upon any question which, in his opinion, vitally concerns the interests of the public health and involves the well being of the physicians of the state, should receive the fullest and most hearty response. This is of all the more importance when the Legislature itself has, through its Chief Executive, invited the coöperation of the medical profession in helping the law makers in their decision.

CHARLES F. PAINTER.

PLEA FOR A DISABLED PHYSICIAN.

Vienna, Oct. 24, 1920.

The generous gift of the American doctors to their Viennese colleagues has been expended in food and clothing and is being distributed through the "Central Relief Committee for Doctors in Vienna." Through its agency, a large number have been relieved, but some, and these are among the most needy, require more. These are the doctors who were wounded in the war while performing their medical duties and who, in consequence, can no longer practice their profession.

The "Union of Austrian Intellectuals" has agreed with the Central Relief Committee that such doctors shall have first claim upon the food and clothing which they distribute. But there is one of our Viennese doctors, Herr Phil. et Med. Dr. Roland Abl, Vienna xiii, Riedelgasse 5, who, through his service at the front, where he aided friend and foe alike, was so severely wounded that he was permanently disabled. The Central Relief Committee in Vienna is not in a position to supply a sufficient, or even a permanent partial, relief to this colleague, either from its own relief funds or from those which have come from outside. And they have consequently recommended him to our "Union of Intellectuals Disabled through the War." We have looked into his case and decided to do all in our power to help and, with this in view, we are now applying to you.

Dr. Roland Abl has lost the use of both hips and has suffered other severe injuries so that he can only drag himself a few steps on crutches and can only with great difficulty either stand or sit.

He was devoting himself to research, and his works on uric acid, published before the war, met with quite sensational success and brought him into touch with the foremost American doctors.

His case is recognized as a most deserving one by Dr. Pirquet, the general commissioner of the American Relief Mission for the Children of Vienna, as well as by other members of the American Mission. Dr. Pirquet has also asked Miss B. Lewis, in Vienna, to give her name to this plea in his behalf.

Would it be possible for you in America who have already done so much for your Viennese colleagues, to add still this and to help this most needy of all the Austrian doctors?

Dr. Roland Abl is now cared for in a Nervenheilanstalt, where he has a room and medical care. This can be continued for only a few months longer. After that he has only the prospect of becoming one of many in a ward of some city hospital for incurables, where any pursuit of his research work or use of material already collected would be impossible. We feel that this would mean serious loss to medical science.

We desire to ensure to him at least the privacy of a single room and the means so that he may be able to publish valuable material which he has already collected. To do this will require a sum which is beyond our present powers to raise.

Should you feel able to contribute, please forward money in care of

The Anglo-American Relief Mission of the Society of Friends, Singergasse 16, Wien 1.

THE UNION OF AUSTRIAN INTELLECTUALS DISABLED THROUGH THE WAR,
D. Grünald.

Miscellany.

NOTICES.

NEW ENGLAND PEDIATRIC SOCIETY.—The sixty-sixth meeting of the Society will be held at the Boston Medical Library, Friday, Dec. 10, 1920, at 8.15 P.M.

1. The Election of Officers.
2. The Use of Irritaton and Counter-irritation in the Treatment of Disease.
   George D. Cutler, M.D., Boston.
   Discussed by
   Drs. Samuel J. Mixter and Henry Jackson, Boston.
3. The Diagnostic Value of Blood Smears in Pertussis. Karlton G. Percy, M.D., Boston.
4. The Indications for the Use of Soda in the Treatment of Disease.
   T. Donald Cunningham, M.D., Boston.

There will also be the usual clinic meeting at the Children's Hospital at 4.30 P.M., to which all members are cordially invited.

FRITZ B. TALBOT, M.D., *President.*
LEWIS W. HILL, M.D., *Secretary.*

MEETING of the Massachusetts Society of Examining Physicians on Tuesday evening, Dec. 14, at 6.30 o'clock, at the Copley Plaza.

Dinner at 7 P.M., $2.00.

Papers:

1. "Functional Psychoses." Dr. Edward B. Lane.
   Discussion opened by Dr. Charles G. Dewey and Dr. A Warren Stearns.
2. "Some Problems of Reconstruction."
   Drs. E. G. Brackett and F. J. Cotton.

W. P. COLES, M.D., *Secretary.*

RECENT DEATHS.

DR. JOHN R. HAM died at his home in Palmer on October 31. Dr. Ham was born in Dover, October 23, 1842. He taught school for a time in the vicinity of Dover before continuing his studies at the Bowdoin and Harvard medical colleges. During the Civil War he was commissioned assistant surgeon of the 115th infantry and was made Medical Purveyor on the staff of Major-General Godfrey Weitzel. He was with the Union forces at Richmond, and later served as regimental surgeon and as post surgeon at Brownsville, Texas, before being mustered out of the service in March, 1886.

Dr. Ham settled at Dover, N. H., where he practised medicine for 38 years.

He was a Fellow of the New Hampshire Medical Society, a member of the State Medical School of Florida, and had served as president of the Dover Medical Society and the Stafford County Medical Society.

DR. GEORGE MOREWOOD LEFFERTS, a specialist in throat diseases, emeritus professor of the College of Physicians and Surgeons, Columbia University, where he was a member of the faculty from 1874 to 1904, died, on September 21, at the age of 74 years.

DR. D. P. VON HANSEMANN, professor of pathologic anatomy at Berlin, has died at the age of 62 years.

DR. WILLETT STURGIS CONNORS, a Boston physician, died recently at the Homeopathic Hospital after an illness of two months. Dr. Connors was born 51 years ago in The Range, Queen's County, New Brunswick. He was graduated from the Dartmouth Medical School in 1890, and for a year practised in Brooklyn. The next year he came to Boston, where he practised for 29 years. His widow, Marion C. Connors, two children, Frances Sylvia and Willett Sturgis Connors, Jr., three brothers, and a sister survive him.

DR. CHARLES F. MORSE, a physician and educator, formerly of Boston and Chelsea, died at Brooklyn, on October 9. He was an instructor in the De Witt Clinton High School in New York City.

Dr. Morse was born in the old North End of Boston on February 23, 1861. After being graduated from the public schools and Harvard College, he taught for several years in the Chauncey Hall School, Copley Square, Boston. He later entered the Harvard Medical School and after receiving his degree he practised medicine in Boston and Chelsea. His appointment to the teaching staff of the De Witt Clinton High School was made about 20 years ago. Those who survive Dr. Morse are his widow, Mrs. Martha A. Morse; a son, Louis S. Morse of Brooklyn; Dr. Morse's mother, Mrs. Julia Locke Morse of West Somerville, and a sister, Miss Julia G. L. Morse of Boston.

LIEUTENANT-GENERAL SIR WILLIAM BABTIE, V.C., of the British Army medical service, died recently while speeding a holiday in Belgium. Sir William Babtie served as principal director of the medical services in the Mediterranean during the operations in Gallipoli, Egypt and Saloniki, in 1915-16, and as director, and later inspector, of medical services at the war office. He was in South Africa on the staff of the Natal army and was present at the actions for the relief of Ladysmith and in later operations in Natal and Eastern Transvaal. He was awarded the Victoria Cross in the South African War in 1899. He was born May 7, 1859. He was educated in Glasgow. He was honorary surgeon to the king.

DR. J. PIERRE MORAT, formerly professor of physiology at the Lyons medical faculty, has died at the age of 75 years.

DR. ARMAND GAUTIER, professor of biological and medical chemistry in the Paris School of Medicine, and distinguished for his contributions to these subjects, has died at the age of 82 years.

DR. WALTER SYDNEY JOHNSON died recently at his home in Los Angeles, California, at the age of 48 years. Dr. Johnson had practiced in Los Angeles for 17 years, and for eight years was senior professor of obstetrics at the College of Physicians and Surgeons. He received his medical degree from the Harvard Medical School in 1898, and then served as surgical interne at the Massachusetts General Hospital, where he later became assistant superintendent. He served also at the Boston Lying-in Hospital. During the World War, Dr. Johnson served as a captain in the Medical Corps, and was stationed at Fort Oglethorpe, Georgia. For several years he was Supervisor of Child Welfare under the City Health Department of Los Angeles. Dr. Johnson is survived by his widow and by two children.

DR. CHESTER MANLEY BARTON, a retired Fellow of the Massachusetts Medical Society, died of hypostatic pneumonia and heart disease, at Mittineague, Mass., October 1, 1920, aged 82 years. The son of Chester and Caroline Estes Barton, he was born at Savoy, Mass., December 31, 1837. He was graduated from the University of Vermont College of Medicine in 1868, and settled in West Cummington, Mass., the same year, moving to Worthington in 1870, and to Hatfield in 1872. There he practised until retired in 1906. He was president of the Hampshire District Medical Society in 1883, and was a member of the visiting staff of the Dickinson Hospital in Northampton. He was twice married, first to Clara L. Whitman of Cummington in 1869, and second to Jessie M. Stearns of Conway in 1893. He is survived by an unmarried daughter with whom he lived in Mittineague, and by a son, a chemical engineer.

DR. HENRY WINSLOW BOUTWELL died suddenly, November 3, 1920, at his home in Manchester, New Hampshire, aged 72 years. He was a native of Lyndeboro, and was educated in the common schools of his native town and at the Francestown Academy. In 1878 he entered the Harvard Medical School, from which he was graduated in 1882. He then did service in Carney Hospital, South Boston, and later at the Massachusetts General Hospital in Boston.

He settled in Manchester, N. H., where he became a leader in his profession and in the political affairs of the state. He was a member of the New Hampshire Medical Society, and the American Medical Association, and was president of the Sacred Heart Hospital. He was a trustee of the Manchester Public Library and for a long time one of the trustees of the State Industrial School. He belonged to the Derryfield Club and was a thirty-second degree Mason.

Dr. Boutwell had served in the lower branch of the New Hampshire Legislature, in the State Senate, in the Governor's Council, and as a member of the board of control of the management of state institutions.

He was twice married, first to Clara L. Gerrish, who died in 1894. His second wife was Mary Stanton, who survives him.

DR. EDWIN LEWIS DROWNE of 119 Arlington Street, Brighton, widely known as a specialist on intestinal diseases, died on Oct. 24, 1920, at the New England Baptist Hospital, Roxbury.

Dr. Drowne was born in East Boston 43 years ago, the son of Luther W. Drowne. He was graduated from Harvard Medical School in 1904, and for two years was connected with the Boston City Hospital. From 1906 to 1910 he was resident surgeon at the Haymarket Square Relief Station. He formerly resided at Concord. Dr. Drowne was a member of the Waltham Medical Society. Dr. Drowne practised massage of the abdomen.

He is survived by his mother, Mrs. Abbie F. Drowne of Mount Vernon, N. Y., and by his widow, Mrs. Agnes Marks Drowne, a prominent member of the Brighthelmstone Club of Brighton.

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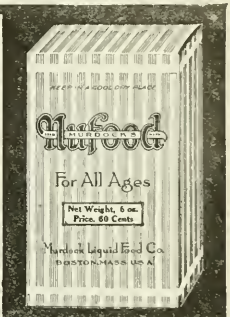

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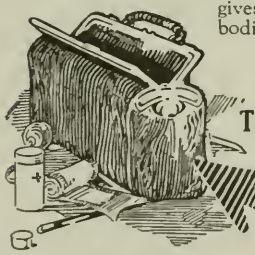

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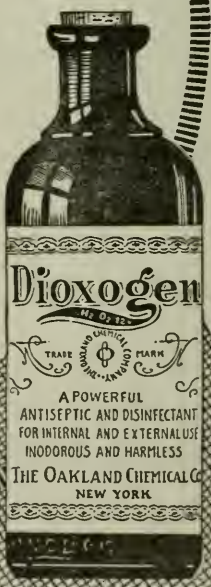

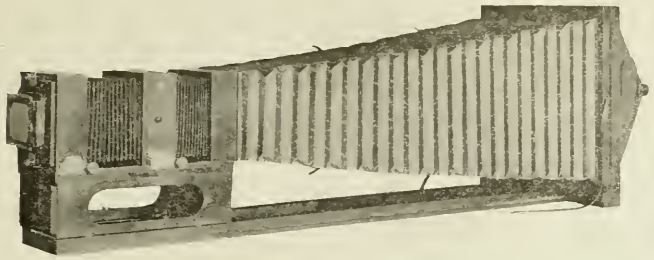

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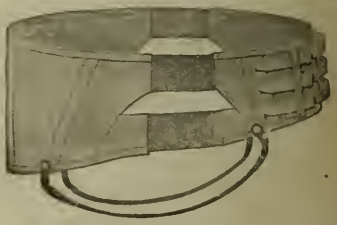

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